# MANUFACTURERS RECORD



## That Which REFERENCE DO NOT LOAN Endures

As the Christmas Season approaches, when thoughts turn to the Prince of Peace and the message borne by the angels, nations are engaged in a war extending around the world.

The hideousness of what now confronts mankind is but a day in the aeons of time, and therefore it is well, even in the present vortex of strife, to reflect upon that which endures.



#### DIESEL ENGINES ELECTRICAL MACHINERY RAILROAD EQUIPMENT WASHERS-IRONERS STOKERS PUMPS FAIRBANKS SCALES WATER SYSTEMS FARM EQUIPMENT AIR CONDITIONERS



ALL ROOFS look the same from the top, when the weatherproof covering is in place. But what happens to the roof deck underneath as the years go by, and time and wear start working on the material of which the roof deck is made?

Why take chances with roof decks that rot, rust and disintegrate from the destructive action of moisture, smoke and fumes? Repairs are a certainty — maintenance and replacements continually add to the original cost of the roof deck, so that it becomes a constant liability instead of an asset. A

## Featherweight PRECAST CONCRETE ROOF DECK

provides the only roof deck material that is structurally sound and permanent—that never requires a dollar of repairs, painting or replacements throughout the entire life of the building. No other roof deck can be classed as *investment*.

It is fireproof—lightweight—goes on FAST in any weather—enables the occupant to get under cover and into production immediately.

#### EMERGENCY BUILDINGS

that are planned now for temporary service, are frequently used later for permanent industry. A FEDERAL ROOF installed now, will not only be safe and economical for the present, but will be ready for permanent occupancy any time in the future, without repair or replacement. This is fact, proven by experience.

Plants near: BIRMINGHAM, ALA.—CHICAGO—NEW YORK—PITTSBURGH

Prompt Service from Our BIRMINGHAM, ALA. Plant.

### FEDERAL-AMERICAN CEMENT TILE CO.

**608 South Dearborn Street** 

LAYING THE SLABS

CEMENTING THE JOINTS

COMPOSITION COVERING

Chicago, Illinois

For Over Thirty Years - Sales Offices In Principal Cities

DECEMBER NINETEEN FORTY-ONE

## Welded PRESSURE VESSELS



# fabricated at BIRMINGHAM for a refinery ... in TEXAS

The national defense program is calling for greater and greater production by Southern industries. The necessary expansion to take care of this increased production is being provided by equipment made in Southern plants.

We have facilities at Birmingham for fabricating pressure vessels of welded construction and x-raying and stress-relieving them as required by the governing specifications. Vessels up to 14 ft. in diameter and as long as can be shipped can be handled in the stress-relieving furnace. Those 80 ft. long or under are stress-relieved all at once.

We also build steel tanks, large diameter steel pipe and steel plate work of all kinds.

The top view above shows two pressure vessels 10 ft. diam. by 36 ft. high and five horizontal vessels at a Texas refinery. Three of the horizontal vessels are 10 ft. diam. by 30 ft., two are 8 ft. diam. by 30 ft. and the other is 10 ft. diam. by 10 ft. The lower view shows six similar vessels at another treating unit.

### CHICAGO BRIDGE & IRON COMPANY

VIIIVAUV	DUIDAR & INAN	••••••••••••••••••••••••••••••••••••••
Birmingham	New York	Philadelphia 1619-1700 Walnut Street Bldg.
Los Angeles 1417 Wm. Fox Bldg.	Cleveland	Detroit
Houston 5614 Clinton Drive	Chicago	Havana
Tulsa	San Francisco	Washington

Plants in BIRMINGHAM, CHICAGO and GREENVILLE, PA.

MANUFACTURERS RECORD FOR

DEC

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#### MANUFACTURERS RECORD

Devoted to the Upbuilding of the Nation Through the Development of the South and Southwest as the Nation's Greatest Material Asset

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#### Member A.B.C.

Entered as second class matter at the postoffice, Baltimore, Md., U.S.A., under act of March 3, 1879. Volume 110. Number 12 Monthly

A... XX

\*\*Pneumatic\*\*

Control System



#### for Marine Service

For application to any type of marine vessel, the Westinghouse Air Brake Company has evolved a distinctive pneumatic control system. By means of operating valves, piping, and air cylinders, it provides remote control, from either the engine room or bridge, for engine starting and stopping, throttle manipulation, and driving clutch engagement. All rods, levers, and linkage, common to mechanical control systems are eliminated. Operation is effortless. Action is prompt and positive, permitting quick change from forward to reverse. Manipulation is very flexible, giving precise control of engine throttle and boat speed. All devices are especially designed for marine service.

We also build air compressors and accessories, including the "Pneuphonic" signal horn, for shipbuilding yards, vessels, and harbors. Compressors are available for any type of drive motor, steam, shaft, gas engine.

Westinghouse . . . .

AIR BRAKE CO.

Industrial Division

PITTSBURGH, PA.

Designers and manufacturers of pneumatic control equipment for 72 years.

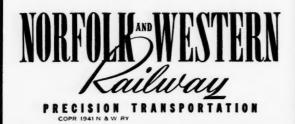


## ...for National Defense!

The American railroads have met the constantly increasing transportation needs of national defense — smoothly and efficiently. But there's a bigger job ahead. And it is absolutely essential to get the greatest possible use out of railroad cars. To conserve cars for national defense, shippers and receivers of freight are urged to follow these common-sense practices, recommended by the National Defense Advisory Commission:

- Give advance notice of requirements but do not order cars placed for loading until commodities are ready to load.
- Unload cars promptly on arrival and notify railroad when empty car is available. (One day saved in the average "turn-around" time of each car, by faster unloading, will add 100,000 cars to the available supply.)
- Load cars to load limit stenciled on each car or to full visible capacity, whichever governs. (Increasing the average carload by one ton, will add 30,000 cars to the available supply.)
- Remove all dunnage, blocking and rubbish from cars after unloading to permit immediate re-use and eliminate necessity of delay to cars for reconditioning.

Supported by the continued patriotic contribution of shippers and receivers, the American railroads will continue to keep the wheels rolling for national defense.



#### As the Editor Sees It

Business In 1942 We have been asked to indicate what the course of business may be in 1942.

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Business will get its impetus in the coming twelve months and for such time as may be necessary to fight the war to a finish.

The productive capacity of America has not been fully tested. It is so vast that it is doubtful if anyone can comprehend it, and from now on it will be full time effort day and night, seven days a week. Vast sums are to be spent, however, and will find their way into the pockets of the people. The resulting demand is likely to be such as to develop very marked activity for a long time in lines not primarily engaged in supplying military needs. Substitutes will be found for many items now listed as critical materials.

Unwise Decision Mr. Lewis has won the closed shop decision, but he has added nothing to his

stature in the eyes of those who believe in free enterprise and the freedom of the individual. As Mr. Fairless of the Arbitration Board points out in his dissenting opinion, labor gains no advantage except the right in this case to dictate who shall work and who shall not. If that is an advantage it is a paltry one, gained at a cost to the country of stopping production for a vital necessity at a critical time.

Those who prompted the move, and those who rendered a decision favorable to it have no cause for pride in the result.

Cheaper Dollar?

At such time as our public debt, together with private debt and taxes, may prove

a back-breaking burden, there will be the temptation to issue a cheaper dollar.

Some of our lawmakers at Washington have referred to it and not always, it would seem, as if it was a disaster to be avoided. Those who think of the consequences must realize that such a step would mean the reorganization of all our affairs, both corporate and private, accompanied by a new sense of values of every kind.

Price Control The price control bill, which the House has passed and as this is written is

about to be considered by the Senate, gives an administrator power to put a ceiling on prices, but gives him no authority over wages and stipulates to what higher price by a variable schedule farm prices may go.

MANUFACTURERS RECORD FOR

The attempt to control all prices is a difficult, if not impossible, thing to do. It is certainly more difficult, and more impossible, if such fundamentals as wages and farm prices are excepted or only partly controlled.

We made the mistake before, early in the depression, of advancing farm prices and labor at the same time. One offset the other in the sale and purchase of commodities. As farm prices rise, which they will, the demand for higher wages appears and except possibly for some fundamental basic commodities largely used in defense, it is doubtful if there can be any effective general control of prices.

War Plans As the extent of the war news opens before us, the Joint Army-Navy Board's

program for military preparation, as published by isolationist papers, does not seem as fanciful as some thought it was when it appeared. Evidently there were those who saw clearly the magnitude of what we face, and were right in their planning for eventualities that would engulf us if we were caught unprepared.

Ten million men to be called was said by critics to be an absurdity. Who is so bold as to say that now?

Things Necessary In the platform adopted by the National Association of Manufacturers at its recent

meeting there were vital planks that deserve more than passing notice. The need of favorable action by the administration and Congress to put them into effect becomes more apparent each day.

There were recommendations for a full-powered single defense production agency; a far-sighted national labor policy; a general sales tax payable upon the last sale of all goods and commodities for use or consumption; cooperation of industry, labor and government to prevent inflation.

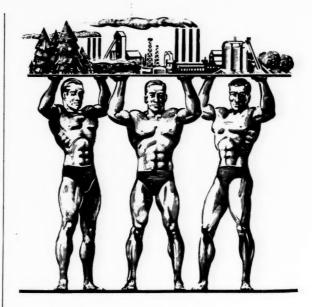
Those who conduct private enterprise, upon which so much depends now and in the future, will find no fault with any of the above. It will be well to impress them upon our law makers.

Non-Defense Spending The urge to cut non-defense spending becomes more insistent every day. The

Director of the Budget says it can be done, and suggests, first, performing functions in a more economical manner through improvements in administrative management; second, by reducing economic and social aid programs to adjust for improved business conditions; third, by cur-

(Continued on page 8)

DECEMBER NINETEEN FORTY-ONE



- SOUTHERN INDUSTRY, supported by its three Titans—Agriculture, Mines and Forests—truly is creating the "New South."
- THIS LUSTY INFANT is playing a role of increasing importance in the nation's economic life.
- HAS IT OCCURRED TO YOU that your industry may be intimately concerned with the opportunities which that section offers?
- FOR MANY YEARS the Coast Line has studied and worked with Southern Industry.
- OUR DEVELOPMENT SERVICE is prepared to give you, without charge, complete and reliable information concerning raw materials, plant sites and market conditions in the South.
- J. H. Hatcher, Manager Development Service Wilmington, N. C.



# gnaustry

America's first line of defense is pushing ahead on all defense production fronts

Industrial expansion in the South is gaining momentum Great manufacturing plants are being established...

By reason of its manifold resources and raw materials, its climatic advantages, capable and dependable native-born labor, the territory the Southern Railway System Lines serve is one of the most favored sections in the nation . . .!

## **SOUTHERN**

Railway System Lines
Blanket the Industrial South

Communicate with RICHARD W. WIRT Assistant Vice-President

In Charge of Industrial and Agricultural Development. Washington, D. C.

#### As the Editor Sees It

**Non-Defense Spending** 

(Continued from page 7)

tailing or eliminating functions.

The Resolutions Committee of the National Association of Manufacturers says unnecessary expenditures can be reduced by \$2 billion, and at its meeting in New York last month showed how it can be done. It is up to Congress to support Senator Byrd in his effort to bring about savings that are most important in the light of the vast sums needed for war.

Christmas Buying The Commerce Department predicts Christmas buying is likely to reach record

figures of between \$5 and \$6 billion. Plenty of spending money is not likely to regard high prices, and that is the trouble with price fixing. Attempts may be made to control prices, but the man with a full pocketbook—and there are a lot of them who have not had so much money before—will, in spite of shortage of commodities, demand the things he wants and the purveyor will try to help him get them, irrespective of what the price may be.

Research Keeps Up The Research Advisory Service has conducted an investigation among manu-

facturing plants as to the plans that industrial management and engineering brains may be making for readjustment after the war days. While the thought and activity of the country is mainly directed toward the war effort, it is decidedly in order and timely to consider what shall be done when the readjustment period comes, as it undoubtedly will soon or late.

According to the Wall Street Journal which refers to the matter, two-thirds of the manufacturers who cooperated in the investigation are maintaining or extending their industrial research programs; 20 per cent of them already have new products developed; about one-third are working to improve customer relations through better sales staff work, and 18 per cent are spending more money for advertising. Some are doing all three things.

Research into ways and means for conducting in the days of peace are essential, as well as in the days of war. At the present time, when there are so many products which must be supplied to government first for military necessities, there is bound to be a dearth of such materials among many industries that have been supplying the demands of every-day

MANUFACTURERS RECORD FOR

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consumers. Hence the need of substitutes, and these are rapidly being created by the research worker. It may be expected that in the discoveries now being made it will be found in time to come many articles can be produced not only in abundance and of material that will do as well as that previously used, but in all probability at a lower price.

#### To Avoid Strikes

The Smith bill, to halt defense strikes, is designed to avoid interruptions during

the emergency of production of the equipment needed by the Army and Navy. It is opposed by the leaders of labor, but objections, if any, offered by the rank and file of workers are not known.

It is very doubtful, if men were left to themselves, they would vote to strike. There are two things which cause strikes and their prolongation. One is the insistence of labor leaders who have too often adopted militant tactics in order to retain their office, and the other is the violence of pickets who restrain men from working when they want to work.

The cooling off period which the Smith bill provides is an admirable provision. The bill also forbids the picketing of a worker's home and the picketing of a struck plant by other than its own striking employees. Both of these activities have been the cause of intimidation which has prevented men from working.

Another vitally important provision is that which would have those who vote for or against strikes do it by secret ballot under government supervision.

The bill should pass.

#### Future Progress

Anent research and its discoveries, to believe what it means for future progress

one has only to consider the increasing demand upon agriculture for products that are showing their value as substitutes for metals and other commodities now in demand for war.

Alfred P. Sloan, Jr., stated recently that General Motors Corporation is developing a definite program so that throughout the wide ramifications of their business processes, products and policies they will be realigned to conform to the post-war conditions when the time comes. He cites: "The most fundamental objective I have in mind is the absolute necessity of more intensive engineering, more intensive utilization of materials with the result that goods may be sold at lower prices, and hence stimulate the demand."

DECEMBER NINETEEN FORTY-ONE



## Exalted we stand - before the beguest of our fathers

The freedom to work, to strive, to produce—this is the obligation of a past that has made America great.

To the manifold tasks involved in the discharge of this trust, the Engineer bends his will, his skill, his experience and his vision so that production may flow in mounting measure to support those who risk the seas, the battlefields and the sky-flung devastation of an enslaving social order.

And beyond the hour of blood-wrested victory, he studies the readjustments for peace, reconciliation and the renewal of opportunities so that the plants he builds today can cater to the needs of a better tomorrow.





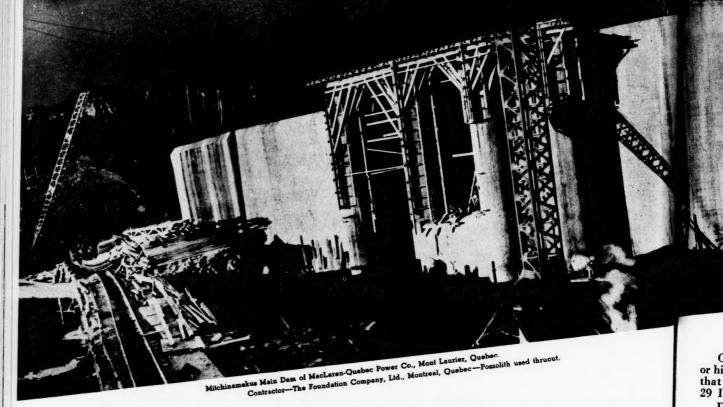
J. E. Sirrine & Company

GREENVILLE • SOUTH CAROLINA

INDUSTRIAL PLANTS . PLANS AND DESIGNS . POWER

LOCATION STUDIES - WATER SUPPLY AND TREATMENT

# 



## THROUGH SPEED AND HIGH EARLY STRENGTH

HIGH early strength concrete is an almost indispensable aid today in speeding up defense construction.

CEMENT DISPERSION, concrete's most important technologic advance in a decade — through POZZOLITH — produces 3 day normal strength in 24 hours, 7 day strength in 3 days, 28 day strength in one week — 25% more strength at later ages.

And this — with normal portland cement; guaranteeing important savings and vastly improved structures.

#### OTHER ADVANTAGES

- 1. Durability increased 50% or more.
- Water reduction up to 20% slump increased 150% or more for given water ratio.
- 3. Increased water-tightness 20% or more reduction in absorption and permeability.
- 4. Reduced bleeding and segregation.
- 5. Reduced heat with minimum cement content.

Send for Research Paper No. 36 "Economics of Cement Dispersion" and complete facts on Pozzolith.

THE MASTER BUILDERS COMPANY

CLEVELAND, OHIO

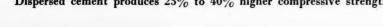
TORONTO, CANADA

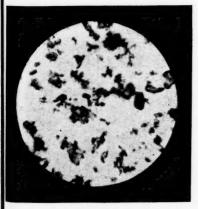


MASTER



DISPERSED





UNDISPERSED

#### WITHOUT POZZOLITH

Cement particles in their normal state in water tend to gather in bunches; i.e., flocculate. Water never reaches some particles and many are only partly hydrated. This reduces the effectiveness of the cement, entraps water within the clumps, requires an excess of water for placement and often results in bleeding and segregation. See photomicrograph at left.

#### WITH POZZOLITH

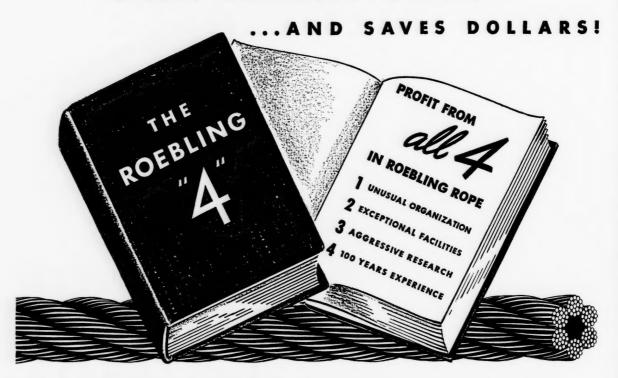
With Pozzolith the dispersion principle operates to drive each particle apart, thus exposing all the cement particles to the vital hydrating action. See photomicrograph above.

This dispersion makes the cement usable to its maximum efficiency since all the water is made available for lubrication of the mix and the entire surface area is exposed for hydration.





## A WIRE ROPE STORY THAT MAKES SENSE



## ROEBLING

"Blue Center"

## **WIRE ROPE**

PREFORMED AND NON-PREFORMED

Roebling leaves no stone unturned to give you the finest in wire rope. In Roebling "Blue Center" Steel Wire Rope you get the benefit of a combination of advantages obtainable nowhere else. It's a combination we call the "Roebling 4".

Service record after service record has proved that on the basis of *general average* rope operating cost, Roebling "Blue Center" Steel Wire Rope saves money—gives unexcelled performance!



#### A JOB ENTRUSTED TO ROEBLING VETERANS!

Drawing the wire for Roebling "Blue Center" Steel Wire Rope is a job that calls for great skill and painstaking care.

Most Roebling wire drawers have had from 10 to 35 years of experience!

In Roebling Wire Rope you get the benefit of the extra quality built into the rope by an organization whose skill and experience is unsurpassed.



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# Guard against water-line troubles with SHATTERPROOF STEEL PIPE



#### ... your best protection against the "unexpected"

YOU can't always predict where or when the next washout will occur; where the ground may settle; or where street traffic or nearby construction may set up destructive vibrations. Yet these and other types of unpredictable stresses can cause serious ruptures in water lines — unless they are constructed of shatterproof material.

NATIONAL Steel Pipe is shatterproof pipe. It has amazing strength and resilience; you can bend it, twist it, and even flatten it, but unlike frangible materials, it will not break suddenly, or shatter. This property makes steel pipe the ideal material for mains, service lines, and laterals. By using steel for all new lines, and for replacements, you can give your water system a high degree of protection against service interruptions. You can then reduce repair costs, and save property damages.

In addition you save installation costs with NATIONAL Steel Pipe, because it comes in long lengths, requiring fewer joints, less labor, less joint material. These are only a few of the reasons why hundreds of American Cities are now using steel pipe in their water systems. Be sure and specify NATIONAL Steel Pipe for mains, service lines, and laterals. Write today for complete data.

## NATIONAL TUBE COMPANY

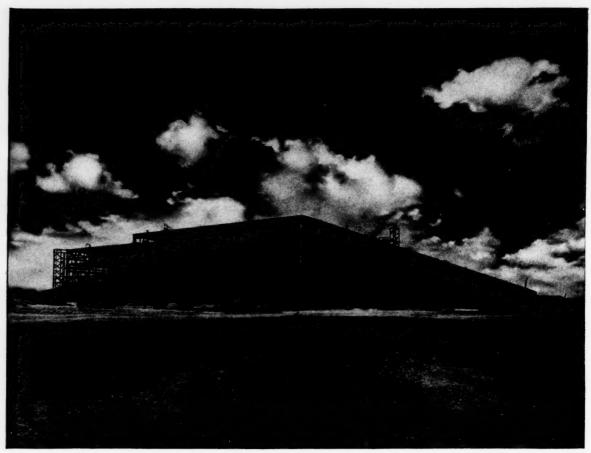
PITTSBURGH, PA

Columbia Steel Company, San Francisco, Pacific Coast Distributors

United States Steel Export Company, New York

UNITED STATES STEEL

DECEMBER NINETEEN FORTY-ONE



1000 CARLOADS OF BETHLEHEM STEEL WENT INTO THE WORLD'S LARGEST BLACKOUT BOMBER PLANT.

## Pulling the shades on a Texas bomber plant

No crack of light can ever betray the location of Consolidated Aircraft Corporation's new Fort Worth bomber plant. This plant is completely windowless—blacked out night and day. Inside, man-made daylight and man-made weather will serve the thousands of workers.

The main structure here is the largest blackout building ever erected. It is 320 feet wide and 4000 feet long—equivalent to 14 city blocks in extent.

Two broad aisles run the entire length of the building. One will be used for storage of materials and will contain tracks for freight cars. The other will be the assembly line for 4-motor bombers.

In addition to the main structure there are an administration building, a maintenance building, a paint shop, a hangar and a boiler house. All of these structures were erected by the Austin Company—all of the 27,000 tons of structural steel were rolled and fabricated by Bethlehem. That the delivery of this great quantity of steel was coordinated with the speed of erection is evidence of Bethlehem's ability to meet the requirements of defense industries.



A complete steel service is available to all Southern industry—a service strengthened by Bethlehem's tidewater plant at Sparrows Point, Maryland.

BETHLEHEM STEEL COMPANY

14

MANUFACTURERS RECORD FOR

# To Judustrialists

#### **OPPORTUNITIES**

INDUSTRIAL sites in communities large or small. Economical power, dependable labor, strategic location; abundant, varied resources; excellent transportation facilities. Write to Industrial Development Division, West Virginia Publicity Commission, Room 265, Capitol Building, Charleston.

N resource-full West Virginia industrial activity is reaching a new high. Construction, exclusive of vast defense projects, is up 35 per cent over 1940.

Industry has found West Virginia's many advantages wellnigh matchless. Within 24 hours of its borders resides half the population of the United States. A moderate climate, void of extremes, cooperative public and civic organizations —these and many other favorable factors await industries seeking new manufacturing sites.

Write today for general or specific information. Your company, too, may build a greater future in the State which is producing today's industrial miracles. Your inquiry will be kept confidential.



Industrial Development Division Dept. NB 12

#### WEST VIRGINIA PUBLICITY COMMISSION

CAPITOL BUILDING, CHARLESTON, W. VA.



#### HE HAS WHAT IT TAKES

• Chances are a thoroughbred will go places... for he has what it takes—breeding, stamina and the best in training, experience and knowledge his owner can provide.

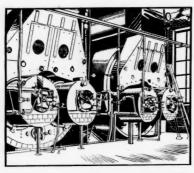
American industry is going places too... in the Gulf South. For industry located in this region of rich natural resources has what it takes to meet the more exacting and ever-increasing demands of today's new industrial order.

For instance, abundant Natural Gas, industry's fastest quality fuel, helps step up production, improve quality and cut over-all costs. Quick, convenient transportation . . . readily available plant sites on inland or coast . . . ideal living and working conditions in a mild year-round climate . . . available, white, intelligent, competent labor are only a few of the many reasons

why industry in the Gulf South has what it takes.

Join the march of industry to the Gulf South. This Company's organization and facilities are available to industries interested in Gulf South opportunities.

Advise us of your requirements . . . without obligation we shall be glad to make a confidential survey for you.



Shown above is a boiler room in a Gulf South alcohol plant where Natural Gas generates 18,000 to 20,000 pounds of steam per hour.

THE GULF SOUTH



**INVITES INDUSTRY** 

\$

For information on GULF SOUTH opportunities write to SUPERVISOR OF INDUSTRIAL DEVELOPMENT

## UNITED GAS

PIPE LINE COMPANY

FOR TEXAS, Mail received at: Beaumont, Beeville, Dallas, Fort Worth, Houston, Longview, San Antonio and Wichita Falls, FOR LOUISIANA, Mail received at: Baton Rouge, Lake Charles, Monroe and Shreveport. FOR MISSISSIPPI, ALABAMA and FLORIDA, Mail received at: Jackson, Mississippi.

ALL INQUIRES CONSIDERED CONFIDENTIAL

COPR., 1941 UNITED GAS PIPE I INE CO.

MANUFACTURERS RECORD FOR

DE

TWO PROBLEMS: One principle

#### one

Here you have a product to be sold to shoppers in retail stores. You advertise it to people in their homes, or on car cards or outdoor boards. But that's not enough. You must follow through at point of sale. You must merchandise with attractive packaging, store dispensers, window and counter displays.

#### two

Now what about the product or service to be sold to management executives in their offices? A raw material, factory or office equipment? Bank service, insurance, construction?

- \$ \$ \$ As in problem 1, an advertising campaign without follow-through at point of sale is incomplete. In this case there are no store displays or dispensers. BUT the principle is the same.
- \$ \$ \$ You apply the principle by advertising (merchandising) in The Wall Street Journal, because 86 per cent of its subscribers read it in their offices at their desks, where they buy.
- \$ \$ \$ And no other publication, magazine or newspaper, gives you as many readers per advertising dollar, among active management-executives of industrial corporations with total assets of over \$1,000,000.

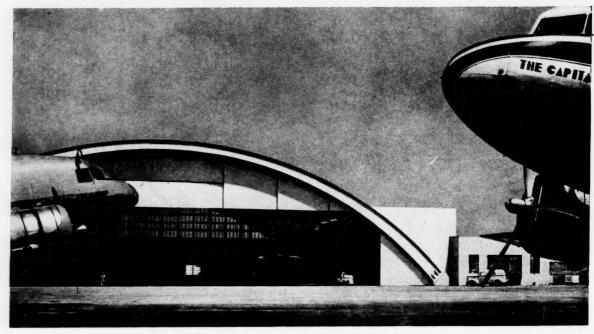


## Wall Street Journal



DECEMBER NINETEEN FORTY-ONE

#### TODAY'S CHALLENGE TO STEEL BUILDING DESIGNS



Washington National Airport hangar-240' wide, 270' deep, 55' high at center.

Developments of today's emergency are carrying engineering and architecture to new extremes and to undreamed possibilities—not only to serve the present need but those of tomorrow when materials are again plentiful for peacetime construction.

Steel designs are readily meeting the need for wider bays in airplane factories and for larger hangars, created by the steadily increasing size of air-liners and bombing planes. To provide large areas of unobstructed floor space, spans of 200-ft. to 300-ft. are economically practical, using the steel-arch construction as shown in the above hangar, or the simple and continuous truss types.

Virginia Bridge, the South's largest structural steel fabricator, with nearly fifty years of engineering, fabricating and erecting Know-How, is prepared to meet the structural requirements of these Up-To-The-Need designs, whatever form they must take.

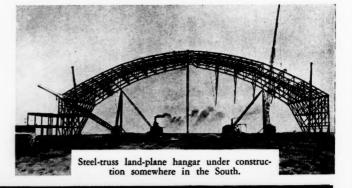
#### VIRGINIA BRIDGE COMPANY

ROANOKE NEW YORK BIRMINGHAM ATLANTA MEMPHIS DALLAS

## Virginia Bridge

STEEL STRUCTURES
ALL TYPES





## UNITED STATES STEEL

MANUFACTURERS RECORD FOR

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"It's the 3:37 East Bound'

# Your sons and daughters will be the pilots of Aluminized America

The small boys who used to sing out the names of brass-studded automobiles now have sons who will fly as naturally as Dad and Mother drive the family car.

Aviation is truly coming of age, thanks to the courage and ability of far-seeing aircraft executives who nurtured the industry from hand-made planes to assembly line production.

It does not mean much to say that there soon will be 400,000 aviation workers compared with 50,000 in 1939... unless you know how hard it is to train even one pair of strange hands in tasks as delicate and tolerances as small as in airplane building.

Alcoa knows, for Aviation and Alcoa have grown up together. Faster, safer, larger planes require stronger, lighter, Alcoa alloys. The airplanes of today are evidence of the success of their mutual efforts. It does not mean much to say that Alcoa has more than doubled its production in two short years unless

#### Material for Future Miracles

While producing aluminum for Defense in quantities undreamed of a few years ago, Alcoa constantly is learning new ways by which these economic advantages of Alcoa Aluminum will serve Aluminized America:

Light Weight
High Resistance to Corrosion
High Electrical Conductivity
High Conductivity for Heat
High Reflectivity for Light
and Radiant Heat
Workability
Non-Magnetic Properties
Non-Toxic Properties
Strength (in alloys)
Non-Sparking Properties
Appearance
High Scrap and Re-use Value



you know that next year one new Alcoa mill alone will be rolling out, in one month, more airplane sheet than has been consumed in all the commercial and private planes ever built in this country.

Back in 1939, before Hitler marched into Bohemia, before German armies sacked Poland; back in 1940, before Norway, Denmark and France were overrun, when priorities were unheard of, Alcoa was voluntarily piling up inventories, investing \$200,000,000 of its own money. Without such activity, many of today's planes would be impossible.

All these things Aviation and Alcoa did in times of peace have made them a great force for Defense; the things they are doing now in Defense will enable your sons and daughters to become the pilots of Aluminized America.

#### ALUMINUM COMPANY OF AMERICA

2109 GULF BUILDING . PITTSBURGH, PENNSYLVANIA

DECEMBER NINETEEN FORTY-ONE



The S. S. AFRICAN METEOR is one of the three all-welded cargo-passenger sister ships, built by Ingalls to provide a 16½-day New York-to-Capetown service for the American South African Line, Inc. All were launched at our Pascagoula, Mississippi, shipyard: the country's only major plant built exclusively for 100%-welded construction.

By pioneering in improved methods of arc-welding, Ingalls is building faster vessels—substantially stronger than riveted hulls. At the same time we are introducing new methods of designing and fabricating both plate work and structural steel. Shops adjoining the rolling mills and a nation-wide engineering and erection service permit speedy efficiency in handling all projects.

#### THE INGALLS IRON WORKS COMPANY

IRMINGHAM, ALABAMA

Subsidiary Companies and Divisions
THE STEEL CONSTRUCTION COMPANY

THE INGALLS SHIPBUILDING CORPORATION . BIRMINGHAM TANK COMPANY

Branch Offices

NEW YORK . PITTSBURGH . ATLANTA . NEW ORLEANS







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## THE SUPREME TASK

The magnitude of the task confronting the country has been made suddenly very clear by Japan's attack. America faces the greatest crisis of its history.

The issue has been drawn for more than two years, although some among us have failed to heed or understand its menace. It has been brought home to us now in a brutal way, but it is well we know it for what it is, and face it as a solidly united country.

Never before has there been such unity of purpose among us. The determination to prevent dictators from imposing their will upon the United States and all democracies transcends all other considerations and embraces willingness to sacrifice to whatever extent may be necessary. To this determination all activity and thought and purpose of America will be given henceforth until the battle is won. The contest may be long and the way of peace, which has been our way so long, may be disordered to a degree that will affect the lives and pursuits of every-

one, but the might of America will be exerted to the limit for final victory.

War on four continents is our war. We are in the vortex. Perhaps after all Hitler has favored us by his urge upon Japan. The German psychology was wrong about Britain and is wrong about America. Our liberty, it might seem at times, has been almost a nebulous factor in our lives. We may have been too complacent to see clearly the danger inherent in totalitarian philosophy, but the stark fact now confronts us. The foundation our forefathers established and upon which we have built a haven for the oppressed, a land of promise such as the world never before has known, is brought to the battle front by unscrupulous enemies.

Our heritage of freedom and opportunity for the individual is at once crystallized as a possession beyond price. For its preservation there is in the words of Daniel Webster, "One country, one Constitution, one Destiny."



## **SOUTH'S** ALL-WELDED SHIPS

Robert H. Macy Ingalls Shipbuilding Corp., Pascagoula, Miss.

The Ingalls Shipbuilding Corporation yard at Pascagoula, Mississippi, is designed exclusively for welded construction and its appearance and equipment differ widely from that of conventional yards engaged in the construction of riveted or partially welded ships.

Most of the structural steel is fabricated at the plant of the Ingalls Iron Works Company in Birmingham, Alabama, where existing structural steel facilities were already available. Templates are made in the mold loft at Pascagoula and a majority of them are shipped to Birmingham for fabrication. Fabrication facilities are also available at Pascagoula and considerable furnacing, flanging, knuckling, and rolling is done there. Shipment of steel and other material is facilitated by rail, truck and water facilities.

Steel fabricated at Birmingham and shipped to Pascagoula is subassembled in large units on the assembly platens. This permits economy in construction by providing a greater degree of accessibility and a maximum use of downhand welding. For example, the inner bottom construction of a ship consists of an assembly made up of the inner bottom plating, vertical keels, intercoastals, floors, and double bottom piping. Other weldments include bulkheads with stiffeners, shaft alleys, deck plating with beams, complete hatch assemblies, stern framing assemblies, and smokestacks.

Both conventional welding and Unionmelt welding are employed.

Automatic Unionmelt is employed where possible for welding of seams and butts of flat surfaces. The plant is equipped with several hundred single operator D. C. welding machines and several constant potential multiple operator machines, which permit the use of as many as fifty welders on one machine.

It is probable that the Ingalls Shipbuilding Corporation employs subcontractors both for the building of ships and for yard facilities to a greater extent than any other shipyard in the United States, thereby making its yard virtually an assembly plant. This policy is in agreement with recent instructions issued by the Government to the effect that work should be subcontracted wherever possible in order that small companies might be tain operation under the priorities system. The policy of the Ingalls Shipbuilding Corporation has been to distribute work to companies in dition, approximately 80 per cent cagoula plant was recruited from whom have been trained by the program. It will thus be seen that as to the several southern states from which materials are procured.

All electrical work is sublet to the Electric Constructors, Inc., of Birmingham. Most of the insulation and pipe laying is done by the Badham Insulation Company, also of Birmingham. Joiner work, including non-structural bulkheads, furnishings, interior fixtures, dec-

able to procure materials and mainthe South wherever possible. In adof the labor employed at the Pasnearby communities, most of company in an extensive training the establishment of the Pascagoula plant is of material benefit to the industries and individuals of the nearby communities as well

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#### **Sub-Contracts**

#### Extensive

oration, and furniture is executed as a subcontract by Hopeman Brothers, Inc., of New York. Other subcontractors employed on the construction of the ships are the Eastern Cold Storage Company and the Consolidated Tile & Marble Corporation of New York.

Ground was broken on February 20, 1939, almost concurrently with the award of a contract for four C-3 type cargo vessels for the United States Maritime Commission. The keels for the first two vessels were laid on August 14, 1939, and the keel for a third vessel on August 21, 1939. Work on the construction of ships proceeded as rapidly as the construction of yard facilities would permit and the first vessel was launched on June 8, 1940.

The original plan called for the construction of a yard having four shipbuilding ways together with the necessary outfitting docks, warehouses, shops, service buildings, and an administration building. Very shortly, however, it became desirable to build additional ways and outfitting piers. This was necessitated by the award of contracts for additional freighters, cargo and passenger ships, and net layers for the United States Navy.

Other new features include additional warehouses, joiner and insulation shops, electrical storage and shop buildings, template storage building, utilities building, additions to the forge shop and substations, paint shop, welding platens, and open crane runways. A new administration building is also under construction. The necessary fills for yard expansion are obtained from excavations or from the dredging of the outfitting slips of the Pascagoula River. The additional area is enclosed with sheet

(Continued on page 58)

Top—The S.S. African Meteor, largest all-welded passenger vessel built in this country, about to be launched at the Mississippi shipyard. Top center—A view of the shipyard under construction. Lower center—Subassembly of forward inner bottom section of shaft alley. Bottom—Erection of shell plating, showing steel scaffold supports.



## CHEMICAL PROCESS INDUSTRIES' GROWTH IN THE SOUTH

W HAT comprises the chemical process industries is open to debate. Assuming-admittedly arbitrarily-that it is made up of four groups classified by the Bureau of the Census as Chemicals and Allied Products, Products of Petroleum and Coal, Paper and Allied Products, and Stone, Clay and Glass Products, then the annual value of products made by southern establishments in these industries amounts to the astonishing sum of \$2,751,850,000 or almost equal to the total capital invested in all manufacturing in the South only thirty years ago.

The growth of the South's industrial development in recent years has caused the eyes of the nation to be turned on this region previously regarded as primarily agrarian, and it has not escaped attention that chemical process industries have figured largely in this growth. A nucleus upon which this growth was firmly built was made up of industries long and well established in the South such as fertilizers, gum naval stores, bone black, carbon black and lamp black, cottonseed oil, cake, meal and linters, and petroleum refining. Of these manufactures the South long has produced a major part. Then, following the last war, came the period of chemical conversion and with it came realization of the South's unmatched fuel and non-metallic mineral resources. These followed the southern expansion of the pulp, paper, rayon and similar industries with which we are all familiar.

Since the outset of this country's defense program there has taken place an expansion of ordnance and industrial plants such as we have never previously seen. Of the chemical process plants established, a large portion have gone to the South and include the manufacture of alumina, chemicals, smokeless powder, TNT, DNT, tetryl, ammonium nitrate,

	Numbe	r of	Wages	Cost of Materials, Power, Fuel, etc.	Value of Products
State and industry group ALABAMA	Establis ments	sh- Wage	(000)	(000 dollars)	(000 dollars)
Chemicals and allied products	183	4,057	2,971	27,741	43,775
Paper and allied products Products of petroleum and coal	11 14	$\frac{2,914}{1,686}$	$\frac{4,431}{2,705}$	$19,445 \\ 18,793$	31,331 $26,593$
Stone, clay and glass products	88	3,974	3,344	6,822	17,158
Total	296	12,631	\$13,551	\$72,801	\$118,857
ARKANSAS					
Chemicals and allied products	49	1,784	1,110	15,746	20,304
Paper and allied products Products of petroleum and coal	9	805 673	732	3,349	5,364 $15,054$
Stone, clay and glass products	23	1,183	930 1,086	$11,416 \\ 1,660$	4,497
Total	90	4,445	\$3,858	\$32,171	\$45,219
FLORIDA					
Chemicals and allied products	315	2,618	1,889	18,187	27,557
Paper and allied products	13	2,180	2,512	12,957	23,971
Products of petroleum and coal Stone, clay and glass products	96	$\frac{35}{1,741}$	$\frac{39}{1,238}$	$\frac{415}{3,404}$	590 7,904
Total	425	6,574	\$5,678	\$34,963	\$60,022
GEORGIA					
Chemicals and allied products	714	7,407	4.807	46,542	69,793
Paper and allied products	30	3,192	2,999	16,047	28,591
Products of petroleum and coal Stone, clay and glass products	$\begin{array}{c} 7 \\ 105 \end{array}$	$\frac{307}{4,368}$	$\frac{255}{3,310}$	$\frac{2,135}{4,874}$	$3,157 \\ 13,264$
	856	15,274	\$11,371	\$69,598	\$114,805
	890	10,214	\$11,511	,000,000	\$114,000
KENTUCKY	20	1.070	1,205	0 099	10.750
Chemicals and allied products Paper and allied products	56 11	$\frac{1,070}{446}$	400	8,933 $1,621$	$\frac{16,750}{2,941}$
Products of petroleum and coal	16	1,297	1,509	28,177	35,086
Stone, clay and glass products	83	2,900	2,745	3,524	10,206
Total	166	5,713	\$5,859	\$42,255	\$64,983
LOUISIANA					
Chemicals and allied products	108	3,712	3,514	25,380	54,182
Paper and allied products Products of petroleum and coal	33 17	5,930 $2,943$	6,472 $4,644$	$\frac{33,389}{97,705}$	50,109 $113,973$
Stone, clay and glass products	47	3,039	2,842	4,513	17,678
Total	205	15,624	\$17,472	\$160,987	\$235,942
MARYLAND					
Chemicals and allied products	167	12,441	14,263	44,896	103,736
Paper and allied products	45	3,534	3,448	12,106	20,398
Products of petroleum and coal Stone, clay and glass products	$\frac{15}{138}$	$\frac{1,455}{4,589}$	$\frac{2,582}{4,576}$	31,996 8,609	$\frac{40,162}{22,706}$
Total	365	22,019	\$24,869		\$187,002
MISSISSIPPI					
Chemicals and allied products	93	3,490	2.013	25,410	33,898
Paper and allied products	5	568	457	2,033	3,386
Stone, clay and glass products	32	2,349	2,029	3,326	7,890
Total	130	6,407	\$4,499	\$30,769	\$45,074
MISSOURI					
Chemicals and allied products	289	6,266 5,049	7,721 $5.112$	45,139 $17,936$	99,223 $31,668$
Paper and allied products Products of petroleum and coal	80 23	1.099	999	7.756	11,817
Stone, clay and glass products	182	8,882	10,917	48,231	85,084
Total	574	21,296	\$24,749	\$119,062	\$227,792

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NORTH CAROLINA		Number of Estab	- Earners		Cost of Mat rials, Powe Fuel, etc.	r, Value of Products
Chemicals and allied products   163   5.781   4.505   22.5302   50.072     Products of petroleum and coal   1   169   165   463   1.198     Stone, clay and glass products   115   3.527   2.469   5.249   12.122     Total	State and industry group	lish- ments	dollars	(COO) dollars)	(000 dollars)	(000 dollars)
Products of petroleum and coal   1   160   165   463   1.198	Chemicals and allied products					50,678
Stone, clay and glass products   115   3.527   2.469   5.249   12.12						
Total						
OKLAHOMA         Chemicals and allied products         75         991         805         6,951         10,976           Paper and allied products         5         213         191         849         1,56           Products of petroleum and coal         28         4,347         6,653         88,677         106,93           Stone, clay and glass products         59         2,484         2,745         4,644         12,657           Total         167         8,035         810,394         8101,121         8132,132           SOUTH CAROLINA         166         2,562         1,251         16,353         21,318           Paper and allied products         13         2,433         2,343         11,152         19,932           Products of petroleum and coal         3         434         318         914         1,752           Stone, clay and glass products         49         2,198         1,945         1,869           Products of petroleum and coal         5         1,663         1,563         2,308           Stone, clay and glass products         108         5,497         49,805         78,257           Texas         108         5,497         49,805         78,255           Texas		-				
Chemicals and allied products   75   991   805   6,951   10.975   Paper and allied products   5   213   191   849   1.56   150.935   1		919	161,61	\$11,110	\$40,410	\$50,022
Products of petroleum and coal   28		75	991	805	6,951	10,976
Stone, clay and glass products   59   2,484   2,745   4,644   12,657     Total						1,564
Total						106,935
Chemicals and allied products	Stone, clay and glass products	59	2,484	2,745	4,644	12,657
Chemicals and allied products	Total	167	8,035	\$10,394	\$101,121	\$132,132
Paper and allied products         13         2,433         2,434         11,152         19,92-Products of petroleum and coal         3         434         318         914         1,752           Stone, clay and glass products         49         2,198         1,397         3,428         7,332           Total         225         7,627         85,400         831,847         850,323           TENNESSEE         Chemicals and allied products         33         2,491         2,497         10,451         18,608           Products of petroleum and coal         6         160         136         1,503         2,308           Stone, clay and glass products         108         5,497         4,569         7,390         20,676           TEXAS         Chemicals and allied products         346         6,883         5,799         49,805         78,255           Paper and allied products         33         1,537         1,663         2,569         78,255           Products of petroleum and coal         16         6,883         5,799         49,805         78,255           Total         723         32,760         844,649         10,081         29,977           Total         723         32,760         844,649 <t< td=""><td></td><td>1.10</td><td>2 700</td><td>4 074</td><td>10.070</td><td>01.016</td></t<>		1.10	2 700	4 074	10.070	01.016
Products of petroleum and coal Stone, clay and glass products         3         434         318         914         1.75           Total         225         7,627         85,400         831,847         850,328           TENNESSEE         Chemicals and allied products         131         15,184         17,262         58,497         128,011           Paper and allied products         33         2,491         2,497         10,451         18,608           Products of petroleum and coal         6         160         136         1,503         2,308           Stone, clay and glass products         108         5,497         4,569         7,390         20,676           TEXAS         Chemicals and allied products         346         6,883         5,799         49,805         78,255           Paper and allied products         33         1,537         1,663         5,657         10,704           Products of petroleum and coal         116         18,946         32,529         576,606         699,117           Stone, clay and glass products         228         5,394         4,649         10,081         29,977           Total         723         32,760         844,640         8642,149         8818,053           VIRGINIA						
Stone, clay and glass products   49   2.198   1.397   3.428   7.335     Total						
Tennessee           Chemicals and allied products         131         15.184         17.262         58.497         128.011           Paper and allied products         33         2.491         2.497         10.451         18.608           Products of petroleum and coal         6         160         136         1.503         2.308           Stone, clay and glass products         108         5.497         4.569         7.390         20.676           Total         278         23.332         \$24.464         \$77.841         \$169.603           TEXAS         Chemicals and allied products         346         6.883         5.799         49.805         78.255           Paper and allied products         33         1.537         1.663         5.657         10.704           Products of petroleum and coal         116         18.946         32.529         576.606         699.117           Stone, clay and glass products         228         5.394         4.649         10.081         29.977           VIRGINIA         Chemicals and allied products         130         16.404         19.145         51.586         123.308           Paper and allied products         50         6.031         6.250         32.086         <						
TENNESSEE         Chemicals and allied products         131         15.184         17.262         58.497         128.011           Paper and allied products		-				
Chemicals and allied products         131         15,184         17,262         58,497         128,011           Paper and allied products         33         2,491         2,497         10,451         18,608           Products of petroleum and coal         6         160         136         1,503         2,366           Stone, clay and glass products         108         5,497         4,569         7,390         20,676           Total         278         23,332         824,464         877,841         8169,603           TEXAS           Chemicals and allied products         346         6,883         5,799         49,805         78,255           Paper and allied products         33         1,537         1,663         5,657         10,704           Products of petroleum and coal         116         18,946         32,529         576,606         699,117           Stone, clay and glass products         228         5,394         4,649         10,081         29,977           Total         723         32,760         844,640         8642,149         8818,053           VIRGINIA         16,404         19,145         51,586         123,308           Paper and allied products         50 <t< td=""><td>Total</td><td>22.5</td><td>7.627</td><td>\$5,400</td><td>\$31,847</td><td>\$50,329</td></t<>	Total	22.5	7.627	\$5,400	\$31,847	\$50,329
Paper and allied products         33         2,491         2,497         10,451         18,608           Products of petroleum and coal         6         160         136         1,503         2,308           Stone, clay and glass products         108         5,497         4,569         7,390         20,676           Total         278         23,332         824,464         877,841         8169,603           TEXAS         Chemicals and allied products         346         6,883         5,799         49,805         78,255           Paper and allied products         33         1,537         1,663         5,657         10,704           Products of petroleum and coal         116         18,946         32,529         576,606         699,117           Stone, clay and glass products         228         5,394         4,649         10,081         29,977           Total         723         32,760         844,640         8642,149         8818,053           VIRGINIA         Chemicals and allied products         50         6,031         6,250         32,086         52,679           Products of petroleum and coal         10         280         730         2,672         4,205           Stone, clay and glass products		1111	17 101	15 000	-0 to-	100.011
Products of petroleum and coal Stone, clay and glass products         6         160         136         1.503         2.308           Total         278         23.332         \$24,464         \$77.841         \$169,603           TEXAS           Chemicals and allied products         346         6.883         5.799         49.805         78.255           Paper and allied products         33         1.537         1.663         5.657         10.704           Products of petroleum and coal         116         18.946         32.529         576,606         699,117           Stone, clay and glass products         228         5.394         4,649         10.081         29.977           Total         723         32.760         \$44,640         \$642,149         \$818,053           VIRGINIA         Chemicals and allied products         130         16,404         19,145         51,586         123,308           Paper and allied products         50         6,031         6,250         32,086         52,679           Products of petroleum and coal         10         280         730         2,672         4,205           Stone, clay and glass products         127         4,484         3,486         6,777         16,859						
Stone, clay and glass products   108   5,497   4,569   7,390   20,676     Total						
TEXAS         Chemicals and allied products         346         6.883         5,799         49,805         78,257           Paper and allied products         33         1,537         1,663         5,657         10,704           Products of petroleum and coal         116         18,946         32,529         576,606         699,117           Stone, clay and glass products         228         5,394         4,649         10,081         29,977           Total         723         32,760         844,640         8642,149         8818,053           VIRGINIA         Chemicals and allied products         130         16,404         19,145         51,586         123,308           Paper and allied products         50         6,031         6,250         32,086         52,679           Products of petroleum and coal         10         280         73,30         2,672         4,205           Stone, clay and glass products         127         4,484         3,486         6,777         16,859           Total         317         27,199         829,611         893,121         8197,051           WEST VIRGINIA         Chemicals and allied products         42         9,393         14,033         34,851         84,577						20,676
Chemicals and allied products         346         6.883         5.799         49.805         78.255           Paper and allied products         33         1.537         1.663         5.657         10.704           Products of petroleum and coal         116         18.946         32.529         576.606         699.117           Stone, clay and glass products         228         5.394         4.649         10.081         29.977           Total         723         32.760         844.640         8642.149         8818.053           VIRGINIA         Chemicals and allied products         130         16.404         19.145         51.586         123.308           Paper and allied products         50         6.031         6.250         32.086         52.679           Products of petroleum and coal         10         280         730         2.672         4.205           Stone, clay and glass products         127         4.484         3.486         6.777         16.859           WEST VIRGINIA         Chemicals and allied products         42         9.393         14.033         34.851         84.577           Paper and allied products         16         1.484         1.664         6.811         10.752           Stone,	Total	278	23,332	\$24,464	\$77,841	\$169,603
Chemicals and allied products         346         6.883         5.799         49.805         78.255           Paper and allied products         33         1.537         1.663         5.657         10.704           Products of petroleum and coal         116         18.946         32.529         576.606         699.117           Stone, clay and glass products         228         5.394         4.649         10.081         29.977           Total         723         32.760         844.640         8642.149         8818.053           VIRGINIA         Chemicals and allied products         130         16.404         19.145         51.586         123.308           Paper and allied products         50         6.031         6.250         32.086         52.679           Products of petroleum and coal         10         280         730         2.672         4.205           Stone, clay and glass products         127         4.484         3.486         6.777         16.859           WEST VIRGINIA         Chemicals and allied products         42         9.393         14.033         34.851         84.577           Paper and allied products         16         1.484         1.664         6.811         10.752           Stone,	TEXAS					
Paper and allied products         33         1.537         1.663         5.657         10,704           Products of petroleum and coal         116         18,946         32,529         576,666         699,117           Stone, clay and glass products         228         5,394         4,649         8642,149         \$818,053           VIRGINIA         723         32,760         \$44,640         \$642,149         \$818,053           VIRGINIA         Chemicals and allied products         50         6,031         6,250         32,086         52,679           Products of petroleum and coal         10         280         730         2,672         4,205           Stone, clay and glass products         127         4,484         3,486         6,777         16,859           Total         317         27,199         \$29,611         \$93,121         \$197,051           WEST VIRGINIA         Chemicals and allied products         42         9,393         14,033         34,851         84,577           Paper and allied products         16         1,484         1,664         6,811         10,752           Products of petroleum and coal         18         1,295         1,935         14,832         19,584           Stone, clay and	Chemicals and allied products	346	6,883	5,799	49,805	78,255
Stone, clay and glass products         228         5.394         4.649         10.081         29.977           Total         723         32.760         844.640         8642.149         8818.053           VIRGINIA         Chemicals and allied products         130         16.404         19.145         51,586         123.308           Paper and allied products         50         6.031         6.250         32.086         52.679           Products of petroleum and coai         10         280         730         2.672         4.205           Stone, clay and glass products         127         4.484         3.486         6.777         16.859           Total         317         27.199         829.611         893,121         8197.051           WEST VIRGINIA         Chemicals and allied products         42         9.393         14.033         34.851         84.577           Paper and allied products         16         1.484         1.664         6.811         10.752           Products of petroleum and coai         18         1.295         1.935         14.832         19.554           Stone, clay and glass products         144         18.674         21.434         23.480         70.311           Total         <	Paper and allied products	33	1,537			10,704
Total         723         32,760         \$44,640         \$642,149         \$818,053           VIRGINIA         Chemicals and allied products         130         16,404         19,145         51,586         123,308           Paper and allied products         50         6,031         6,250         32,086         52,679           Products of petroleum and coal         10         280         730         2,672         4,205           Stone, clay and glass products         127         4,484         3,486         6,777         16,859           Total         317         27,199         \$29,611         \$93,121         \$197,051           WEST VIRGINIA         Chemicals and allied products         42         9,393         14,033         34,851         84,577           Paper and allied products         16         1,484         1,664         6,811         10,752           Products of petroleum and coal         18         1,295         1,935         14,832         19,584           Stone, clay and glass products         144         18,674         21,434         23,480         70,311           Total         220         30,846         \$39,066         \$79,974         \$185,224           SOUTH         Chemicals and al	Products of petroleum and coal					699,117
VIRGINIA         Chemicals and allied products         130         16,404         19,145         51,586         123,308           Paper and allied products         50         6,031         6,250         32,086         52,679           Products of petroleum and coal         10         280         730         2,672         4,205           Stone, clay and glass products         127         4,484         3,486         6,777         16,859           Total         317         27,199         829,611         893,121         8197,051           WEST VIRGINIA         Chemicals and allied products         42         9,393         14,033         34,851         84,577           Paper and allied products         16         1,484         1,664         6,811         10,752           Products of petroleum and coal         18         1,295         1,935         14,832         19,554           Stone, clay and glass products         144         18,674         21,434         23,480         70,311           Total         220         30,846         \$39,066         \$79,974         \$185,224           SOUTH         Chemicals and allied products         3,036         100,117         102,374         504,980         967,617	Stone, clay and glass products	228	5,394	4,649	10,081	29,977
Chemicals and allied products         130         16,404         19,145         51,586         123,308           Paper and allied products         50         6,031         6,250         32,086         52,679           Products of petroleum and coal         10         280         750         2,672         4,263           Stone, clay and glass products         127         4,484         3,486         6,777         16,859           Total         317         27,199         \$29,611         \$93,121         \$197,051           WEST VIRGINIA         Chemicals and allied products         42         9,393         14,033         34,851         84,577           Paper and allied products         16         1,484         1,664         6,811         10,752           Products of petroleum and coal         18         1,295         1,935         14,832         19,584           Stone, clay and glass products         144         18,674         21,434         23,480         70,311           Total         220         30,846         \$39,066         \$79,974         \$185,224           SOUTH         Chemicals and allied products         3,036         100,117         102,374         504,980         967,617           Paper and allied	Total	723	32,760	\$44,640	\$642,149	\$818,053
Paper and allied products         50         6.031         6.250         32,086         52,679           Products of petroleum and coal         10         280         730         2,672         4,205           Stone, clay and glass products         127         4,484         3,486         6,777         16,859           Total         317         27,199         829,611         893,121         8197,051           WEST VIRGINIA Chemicals and allied products         42         9,393         14,033         34,851         84,577           Paper and allied products         16         1,484         1,664         6,811         10,752           Products of petroleum and coal         18         1,295         1,935         14,832         19,584           Stone, clay and glass products         144         18,674         21,434         23,480         70,311           Total         220         30,846         839,066         879,974         8185,224           SOUTH         Chemicals and allied products         3,036         100,117         102,374         504,980         967,617           Paper and allied products         430         42,954         45,684         199,948         341,280           Products of petroleum and coal						
Products of petroleum and coal Stone, clay and glass products         10         280         730         2,672         4,205           Stone, clay and glass products         127         4,484         3,486         6,777         16,859           Total         317         27,199         \$29,611         \$93,121         \$197,051           WEST VIRGINIA         Chemicals and allied products         42         9,393         14,033         34,851         84,577           Paper and allied products         16         1,484         1,664         6,811         10,752           Products of petroleum and coal         18         1,295         1,935         14,832         19,584           Stone, clay and glass products         144         18,674         21,434         23,480         70,311           Total         220         30,846         \$39,066         \$79,974         \$185,224           SOUTH         Chemicals and allied products         3,036         100,117         102,374         504,980         967,617           Paper and allied products         430         42,954         45,684         199,948         341,280           Products of petroleum and coal         285         35,128         56,146         884,085         1,081,595 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>						
Stone, clay and glass products         127         4,484         3,486         6,777         16,859           Total         317         27,199         \$29,611         \$93,121         \$197,051           WEST VIRGINIA         Chemicals and allied products         42         9,393         14,033         34,851         84,577           Paper and allied products         16         1,484         1,664         6,811         10,752           Products of petroleum and coal         18         1,295         1,935         14,832         19,584           Stone, clay and glass products         144         18,674         21,434         23,480         70,311           Total         220         30,846         \$39,066         \$79,974         \$185,224           SOUTH         Chemicals and allied products         3,036         100,117         102,374         504,980         967,617           Paper and allied products         430         42,954         45,684         199,948         341,280           Products of petroleum and coal         285         35,128         56,146         884,085         1,081,595           Stone, clay and glass products         1,643         75,809         73,496         148,908         361,358						
Total						
WEST VIRGINIA           Chemicals and allied products         42         9.393         14.033         34.851         84.577           Paper and allied products         16         1.484         1.664         6.811         10.752           Products of petroleum and coal         18         1.295         1.935         14.832         19.584           Stone, clay and glass products         144         18.674         21.434         23.480         70.311           Total         220         30.846         \$39.066         \$79.974         \$185.224           SOUTH         Chemicals and allied products         3.036         100.117         102.374         504.980         967.617           Paper and allied products         430         42.954         45.684         199.948         341.280           Products of petroleum and coal         285         35.128         56.146         884.085         1.081.595           Stone, clay and glass products         1.643         75.809         73.496         148.908         361.358						
Chemicals and allied products         42         9.393         14.033         34.851         84.577           Paper and allied products         16         1.484         1.664         6.811         10.752           Products of petroleum and coal         18         1.295         1.935         14.832         19.584           Stone, clay and glass products         144         18.674         21.434         23.480         70.311           Total         220         30.846         \$39.066         \$79.974         \$185.224           SOUTH         Chemicals and allied products         3.036         100.117         102.374         504.980         967.617           Paper and allied products         430         42.954         45.684         199.948         341.280           Products of petroleum and coal         285         35.128         56.146         884.085         1.081.595           Stone, clay and glass products         1.643         75.809         73.496         148.908         361.358			21,100		,00,121	
Paper and allied products		.19	0.303	14.039	24 851	\$1577
Products of petroleum and coal Stone, clay and glass products         18         1.295         1.935         14.832         19.584           Total         220         30.846         \$39.066         \$79.974         \$185,224           SOUTH             Chemicals and allied products         3.036         100,117         102,374         504,980         967,617         Paper and allied products         430         42,954         45,684         199,948         341,280         Products of petroleum and coal 285         35,128         56,146         884,085         1,081,595         Stone, clay and glass products         1.643         75,809         73,496         148,908         361,358						
Stone, clay and glass products         144         18.674         21.434         23,480         70,311           Total         220         30,846         \$39,066         \$79,974         \$185,224           SOUTH         Chemicals and allied products         3,036         100,117         102,374         504,980         967,617           Paper and allied products         430         42,954         45,684         199,948         341,280           Products of petroleum and coal         285         35,128         56,146         884,085         1,081,595           Stone, clay and glass products         1,643         75,809         73,496         148,908         361,358						19.584
SOUTH           Chemicals and allied products         3,036         100,117         102,374         504,980         967,617           Paper and allied products         430         42,954         45,684         199,948         341,280           Products of petroleum and coal         285         35,128         56,146         884,085         1,081,595           Stone, clay and glass products         1,643         75,809         73,496         148,908         361,358						
Chemicals and allied products         3,036         100,117         102,374         504,980         967,617           Paper and allied products         430         42,954         45,684         199,948         341,280           Products of petroleum and coal         285         35,128         56,146         884,085         1,081,595           Stone, clay and glass products         1,643         75,809         73,496         148,908         361,358	Total	220	30,846	\$39,066	879,974	\$185,224
Chemicals and allied products         3,036         100,117         102,374         504,980         967,617           Paper and allied products         430         42,954         45,684         199,948         341,280           Products of petroleum and coal         285         35,128         56,146         884,085         1,081,595           Stone, clay and glass products         1,643         75,809         73,496         148,908         361,358	SOUTH					
Paper and allied products     430     42.954     45.684     199.948     341.280       Products of petroleum and coal     285     35.128     56.146     884.085     1.081.595       Stone, clay and glass products     1.643     75.809     73.496     148.908     361.358						
Stone, clay and glass products 1.643 75,809 73,496 148,908 361,358	Paper and allied products					
Total	Stone, clay and glass products	1.643	75,809	73,496	148,908	361,358
	Total	5,374	254,008	\$277,700	\$1,737,921	\$2,751,850

#### Dissenting Opinion of B. F. Fairless in "Captive" Coal Mine Dispute

Benjamin F. Fairless, President, United States Steel Corporation, is a member of the Board of Arbitration called on to settle the closed shop question in the captive coal mine case. He did not agree with the decision of the majority and filed a dissenting opinion.

With a mass of war news now being printed by the press, it is possible what Mr. Fairless had to say did not get the prominence that it deserves. We are herewith reproducing it. Editor.

"I do not agree with the decision of

the majority of this Board of Arbitration, and I have filed a dissenting opinion. That opinion speaks for itself. However, I want it understood that notwithstanding my dissent, taken in my capacity as a member of this Board of Arbitration, the "captive" coal mining subsidiaries of the United States Steel Corporation, in accordance with their acceptance of arbitration in this matter, will make the decision here recommended by the majority of the Board effective in agreement with the United Mine Workers of America."

#### Dissenting Opinion

"I dissent from the decision of the majority of this Board of Arbitration, ap-

\$2,751,850,000

annual value of

products in South

is nearly 30 per cent

of national output

phosphate, sulphuric acid, picric acid, magnesium, toluol, oil refining, butadiene. These, together with normal expansion of industries producing pulp, paper, rayon, glass, resins, alcohol, synthetic rubber, chlorine, caustic, ammonia, oils, paints, and sundry chemicals cannot be regarded as anything but permanencies in the South's ever forward march.

Where this will lead none can tell, but with the South's present chemical process industries having an annual output value closely approximating 30 percent of the national production, it is reasonably safe to predict that by 1950, one-half or more of the country's chemical production and chemical process industries will be south of the Mason-Dixon Line. A breakdown of each southern state's part in this development by industry groups appears herewith.

pointed by the President of the United States.

"That decision imposes a closed shop on the so-called 'captive' coal mine operators, who are parties to this arbitration. Their operations have heretofore always been conducted on the open shop principle over a long period of years. There is no possible justification for a change in this basic labor relationship at a time of national crisis.

"That decision further imposes an unregulated labor monopoly upon the entire bituminous coal industry.

"That decision does not confer one single benefit on the workers in the captive' coal mines. Their wages, hours or working conditions are in no way improved. The only beneficiary is the already powerful United Mine Workers of America, whose membership already embraces about 95 per cent of the workers in the bituminous coal industry.

(Continued from page 56)

## SAN JACINTO, TEXAS ORDNANCE DEPOT NEARS COMPLETION

M ORE than \$2,250,000 worth of all types of modern machinery were required in the building of San Jacinto, Texas, Ordnance Depot, now in progress. Included were three huge dredges used to excavate a slip for the dock where, after the first of the year, American munitions will be transshipped to vessels perhaps destined for foreign lands.

Into the building of the depot have gone thousands of different types of equipment, drawn from every section of the United States and ranging from door fasteners to huge scrapers, the latter costing \$7,500 each and capable of biting off 15 yards of dirt at a time.

In recent years the importance of the Houston Ship Channel as an inlet and outlet for commerce and manufactured articles has come more and more to the attention of the world. The San Jacinto Ordnance Depot is the latest project of this channel. Lying approximately 15 miles east of the heart of Houston, the Ordnance Depot is scheduled to be completed by June 1, 1942. The original estimate of cost for the depot was \$8,000,-000, but a more recent estimate has raised that figure to \$10,942,164.

This depot lies in a beautiful piney woods region, famous for its place in Texas history. Just across the Houston Ship Channel lies the San Jacinto Battlegrounds, site of the battleground of San Jacinto, where the Texans under Sam Houston defeated the Mexican Army under Santa Anna, thereby achieving Texas' independence.

Among the important features of the depot, which will serve as a trans-shipment point for munitions for the United States Army, and is located on a 4700-acre tract, will be its 1,500-foot dock, its railway system, and its 200 concrete igloos, in which munitions will be stored prior to their trans-ship-

When engineers for the Construction Division of the Quartermaster Department selected the site last fall, it was a quiet, almost isolated region in which there had been no development, aside from one or two small residential subdivisions, Major Richard E. Froiseth, who had directed numerous major construction projects in the West in private enterprise, and who had been called to the colors early in the building of the new Army, was selected as Construct-

ing Quartermaster for the project on the Houston Ship Channel. What he found when he came to Houston was a site for a depot, an adjacent deep sea waterway, a single concrete highway along the outskirts of the reservation, and a distant railway line. The task set up by the Army was the completion of a huge Ordnance Depot within the space of one year.

Engineering work upon the Ordnance Depot was turned over to the firm of Lockwood & Andrews and David M. Duller of Houston. The contract for the project was let to a group of builders assembled under the firm name of Hubbard-Knutson-Mitchell, also of

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Houston.

The building of this depot presented a different type problem from that in the construction of ordinary military cantonments. First, there was the problem of communication lines, such as the dock, railway, concrete highways, and lateral roads to service munition storage houses. Foundations for the dock and the igloos presented one of the first major issues for the engineers. Core tests and soil analyses were made over the entire area to determine bearing qualities of earth for foundation.

But there were also the additional problems of drainage and camouflage, since the igloos must be completely free of water to serve as storage places for munitions, and they must be relatively invisible, in so far as it is possible to make them so from the eyes of an enemy, should the time ever come when the depot would be subject to attack by an aggressive foe.

In many respects the Ordnance Depot resembles the tank farm of a major oil company. After its primary installations are maderoads, railways, and dock facilities -the concrete igloos will be scattered throughout the reservation. The igloos will be concrete store houses with circular roofs, approximately 13 feet above the concrete floor space. One hundred and fortysix of the igloos will be 60 feet in



One of the many bulldozers employed in uprooting tree stumps on San Jacinto Ordnance Depot site near Houston, Texas.

MANUFACTURERS RECORD FOR



length and 26 feet wide. Fifty-four will be 80 feet in length and 26 feet wide, and six will be standard makes 51 feet, seven inches wide, by 218 feet, eight inches, in length. Although these igloos will be built upon the surface of the earth, they will be covered by dirt, leaving only mounds throughout the reservation, and the natural foliage will be used to hide these mounds.

The permanent camp will include an Administration area for headquarters of the Ordnance Department which will operate the completed depot. The Administration area will include a two-story Administration Building, a fire and guard house, gate house, garage and car storage building, two storage warehouses, motor field station, carpenter shop, paint shop, paint storage building, locomotive house, materials yard, four duplex officers' quarters, and garage and a machine shop.

A brief resume of the quantity of materials which will go into the camp gives an idea of the amount of work involved. This will include 29.6 miles of concrete roads, and 7.5 miles of shell top roads. A total of 1700 concrete pilings will be driven, or a total of 118,745 linear feet of concrete pilings. Creosoted timber pilings will number 3300 and will measure 245,315 linear feet. This piling will be used in the 1500-foot dock. The dock will be 105 feet wide with room enough for two railroad tracks and a sufficient quantity of warehouse space.

Present estimates specify that 247,000 barrels of cement will be used to build the depot. Total steel required will amount to 10,500 tons. A total of 55,920 feet of chain

A fleet of Gar Wood scrapers being pulled by Allis-Chalmers tractors at the job of leveling the San Jacinto Ordnance Depot site.

link 72-inch fence will be set up in addition to 37,500 feet of barbed wire fence.

Approximately 3,500,000 cubic yards of dirt were removed by dredge and drag line in the dock area, space when excavated, if in that form, that would have left a hole large enough to have accommodated a 22-story building dropped into it. In addition to the main dock, there will be a tug boat dock and a dock shed.

It is hard to conceive of the multitude of criss-cross requirements which go into the building of a defense plant of this type. Electric power installations supply force. Traveling grease stations and tank wagons supply the equipment in the field with fuel. Ambulances are on hand to render first aid to any employees that might be injured. Lumber stations are scattered throughout the vast reservation. The checkers and material men move about the project on horse back, and mule teams work side by side in the rough terrain with latest model tractors, ditch diggers, scrapers, and trucks.

More than 50 carloads of material arrive and are unloaded daily at the Ordnance Depot. The water lines will measure 35,400 feet, or 6.7 miles. Gas lines will measure 7,300 feet. There will be 7700 feet of fuel lines, and 38 miles of paved roads at the camp site. Two deep wells will provide water for the system, and a 200,000 gallon tank and a 50,000 gallon tank are now being erected. The harbor,

constructed artificially during the past three months, will be 2,000 feet long and 37 feet deep and 250 feet wide on the bottom where it enters the Houston Ship Channel. The project is expected to employ around 4,000 persons at its peak, which will be reached in the near future.

Many problems have been encountered in the construction of the San Jacinto Ordnance Depot, one of the most important of which has been high tides, a factor which delayed erection of the dock. A tropical hurricane which passed directly over the site of the depot blew down trees, damaged some communications, and delayed work for several days. It brought high water up the Houston Ship Channel.

The first concrete was poured at the dock in 20 inches of water, and for days men worked in water to lay the beams.

In recent weeks, scarcity of materials has made itself felt, and work in one form or another has been handicapped by shortage of switch ties for the railroad, timber piling, structural and reinforced steel, steel rails, and many timbers requiring creosoting. Engineers now report that all creosoting orders are running twenty-four hours behind schedule, prior to their arrival at the Ordnance Depot site.

In addition to Major Froiseth, Constructing Quartermaster, other Army officers engaged in active construction at the camp include Major Heyward C. Bailey, Executive Officer; Major John C. Meadows, Assistant Executive Officer; Major Dott E. Smith, Property Officer; Lieutenant A. J. Malloy,

(Continued on page 56)

## SOUTHERN CONTRACTS EXCEED \$2,735,000,000

by
S. A. Lauver,
News Editor

SOUTHERN construction entered the twelfth month of 1941 with the largest total ever recorded for such activity in the area below the Mason and Dixon line. Great industrial operations have been started and completed and whole towns have sprung to life in which to utilize the vast resources of field and forest and mineral wealth with which the South is so righly endowed.

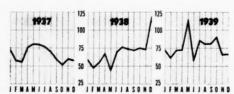
The construction figure for the first eleven months of the year is placed at \$2,735,184,000. This is an average of over 248 million dollars monthly of which the largest part is for facilities carrying out the gigantic task that confronts the nation—that of providing the armament to press the current conflict and at the same time furnishing food and supplies.

Large portions of the astronomical expenditures being made to prosecute this war effort have found their way directly into development of southern industry. Magnesium, aluminum, steel manufacture; aircraft, ship and tank production are but a few of the branches of endeavor in which the expansion has occurred. Erection of a huge aluminum plant in Arkansas and establishment of new facilities to manufacture magnesium in Texas are two of the latest projects.

Consequently, many towns and small cities which dot the South are finding their water supplies, their sewerage plants, their educational, commercial and recreational facilities taxed beyond their limits by the mass migrations following in the path of increased industrial activity and the second great military mobilization in a little over two decades.

A wave of intensified activity in providing these essential functions of community life is to be expected within the next few months as allotments of Federal

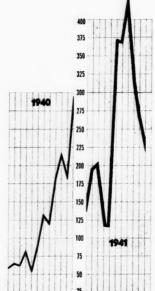
Southern construction for the past five years is graphically shown in the chart below. The years of 1941 and 1940 have made history in the sixteen states below the Mason and Dixon line. For the elapsed eleven months of this year the total of contracts is \$2,735,184,000. The November figure was \$220,546,000.



funds are being made to carry out the work. The forecast is strengthened by the fact that water and sewer projects proposed during November in the sixteen southern states were valued at over one-half more than the \$23,319,000 in contracts let for similar projects during the entire elapsed eleven months.

Private residential contracts during November moved sharply upward. The possibility of further work in this field, however, declined due to restrictions placed on all construction outside of the defense realm. Value of residential contracts, according to Manufacturers Record compilations for November, was \$43,403,000. The figure for the preceding month was \$9,910,000.

The November total for private residential work includes a \$27,000,000 insurance company financed development at Alexandria, Va. The picture is completed by addition of the \$9,953,000 in housing projects awarded direct by Government agencies. A backlog of almost seven times the public housing figure is in the offing as local and national authorities prepare to launch other projects to shelter the thousands of families moving into defense areas, such as Middle River, near Baltimore, where the big Martin aircraft plant is rapidly increasing its force of workers, and at Pascagoula, Miss., where construc-



November construction awards placed at \$220,546,000

tion is being rushed by Ingalls Shipbuilding Corp. on a number of vessels for the Maritime Commission.

Industrial contracts in Nevember dropped about 56 million dollars from the October level. The flow of Government funds has changed its course somewhat into the channels of housing, into airfield construction and into projects designed to round out the military organization, particularly facilities to enlarge instruction operations under the air corps' aim to make the country's winged might second to none.

Arkansas led the list in the field of expansion of plants for producing light weight metals. Jesse Jones, federal loan administrator, announced selection of a site near Malvern for the \$33,000,000 aluminum plant to be operated by the Aluminum Company of America. Both Dow Chemical Co. and Union Potash Co., the latter a subsidiary of International Agricultural Corp., were engaged in expansion of Texas magnesium production. A \$12,000,000 plant near Austin was covered by an award made during November.

West Virginia will be the richer by several new industrial plants under other DPC allocations. A \$3,500,000 factory is to be erected at Charleston and operated by Carbide & Carbon Chemicals Corp. At Fairmont will rise a \$1,000,000 factory to make electrical equipment for the army and navy. It will be operated by Westinghouse Electric & Manufacturing Co., which recently placed a big fluorescent light plant in production there and is making ready to proceed on construction of an adjacent glass plant.

Smaller allotments of Federal funds were made to American Rolling Co. for an \$842,000 bessemer converter at Ashland, Ky.; to the Baltimore division of Bendix Aviation Corp. for \$380,715 new facilities to produce aircraft equipment, and to Intercontinent Aircraft Corp. for a \$600,000 expansion at Miami, Fla.

Monsanto Chemical Co., of St. Louis, Mo., is to erect and operate a \$2,200,000 plant at Galveston, Texas, to make chemicals required in rubber production, also under a Federal agreement. Eastern States Petroleum Co., Inc., of Houston, proposes a \$1,000,000 refinery, and Gulf Oil Corp., of Port Arthur, plans a \$1,000,000 refinery to increase its production of aviation gasoline.

E. I. du Pont de Nemours & Co. is to break ground for a new hydrochloric acid plant at North Baton Rouge, La., for

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Right—Work forges ahead on the \$2,000, 000 plant being built at Port Arthur, Texas, by Texasteel Manufacturing Co. The concrete columns are part of the 450-foot rolling mill building, while the piles shown in the foreground are driven in the 186 by 14foot space where two feet of concrete will be placed to support two open hearth furnaces. Spence-Howe Construction Co., of Port Arthur, are the contractors, H. E. Beyster Co., of Detroit, Mich., are the engineers for the plant, which will go into operation about January 1 and employ 500

Ethyl Gasoline Corp. The expansion at that point is estimated to cost around \$2,-500,000. Architects and engineers were selected for the Myrtle Grove anhydrous ammonia and ammonium nitrate plant to be constructed near El Dorado, Ark.

Humble Oil & Refining Co. let contract for its \$3,000,000 recycling plant in the Katy field of Waller County, Texas.



tions plant at Cordova, Tenn. Lite Co. is reported to be planning an acetylene plant in Roanoke County, Virginia.

Contracts Awarded

November, 1941

South's Construction by States

	14016	miner, 1941	First
	Contracts Awarded	Contracts to be Awarded	Eleven Months 1941
Alabama	\$2,975,000	\$55,544,000	\$247,562,000
Arkansas	61,603,000	41,982,000	206,289,000
District of Col	782,000	462,000	50,092,000
Florida	9,088,000	11,760,000	122,833,000
Georgia	6,944,000	18,435,000	163,120,000
Kentucky	575,000	14,835,000	123,957,000
Louisiana	11,999,000	18,520,000	204,079,000
Maryland	15,910,000	6,767,000	190,329,000
Mississippi	2,846,000	11,098,000	76,176,000
Missouri	22,998,000	11,293,000	121,819,000
North Carolina	3,552,000	13,805,000	103,318,000
Oklahoma	2,011,000	21,025,000	143,224,000
South Carolina	3,569,000	13,334,000	64,908,000
Tennessee	1,254,000	32,670,000	167,656,000
Texas	26,877,000	76,667,000	477,775,000
Virginia	45,705,000	59,226,000	188,581,000
West Virginia	1,858,999	64,081,000	83,466,000
TOTAL	\$220,546,000	\$471,504,000	\$2,735,184,000

Capacity will be the processing of 200 Jacinto Shipbuilders, Inc., of Houston, Texas, took preliminary steps toward establishing a \$3,285,000 plant for building concrete barges.

American Hammered Piston Ring division of Koppers Co. let contracts for buildings in connection with the \$1,250,000 plant it is erecting at Baltimore to turn out engine parts for the navy. Numerous subcontracts were let for the \$3,100,000 tube mill being built in the same city by Revere Copper & Brass, Inc.

War Department approval was given a \$2,000,000 floating drydock project at Charleston, S. C., for Charleston Shipbuilding and Drydock Co. Army officials chose the firm to erect a \$36,000,000 incendiary bomb plant at Pine Bluff, Ark. Construction proceeded on the \$84,000,000 powder plant at Chouteau, Okla., as a \$650,000 award was made for ready-mixed concrete.

Mathieson Alkali Works, Inc., of Lake Charles, La., proposed a \$6,000,000 sodium nitrate plant. Permission was given the National Fireworks Distributing Co., of Memphis, Tenn., to erect a \$300,000 muni-

A \$5,000,000 expansion of the Maryland million cubic feet of gas daily. San Drydock Co., Baltimore, followed acquisition of the property by Shields & Co., of New York. Bethlehem interests at the same port also have extensive enlarge-

ments under way. Other shipbuilding expansions in the South included one to cost \$116,000 at the Westwego, La. plant of Avondale Marine Ways, Inc., a \$500,-000 way construction program at New Orleans, for Pendleton Shipyard, Inc., and a \$100,000 launchway at Norfolk, Va., for Welding Shipyards, Inc.

As two long oil pipelines were being completed, others were being proposed to transport the South's liquid and gaseous wealth. One was a 16-inch natural gas line from the Cement field in Oklahoma to the capital of that State. Service Oil Co., of Tulsa, will construct the project. Another is to connect the 1.050 miles between Texas and Savannah, Ga., and is projected by Transamerican Pipeline Corp., of Washington, D. C. Hope Natural Gas Co., subsidiary of Standard Oil Co., was the subject of rumors that a \$25,000,000 natural gas line 1,000 miles long would be laid from northern Louisiana to Charleston, W. Va.

Chesapeake & Ohio Railway let the contract for driving a \$1,500,000 tunnel through the Blue Ridge Mountains, near Waynesboro, Va. Sears, Roebuck & Co. took an option on a 50-acre site for a \$2,-

(Continued on page 54)

#### Statistics of South's Construction

	Novem	ber, 1941	Contracts Awarded First	
	Contracts	Contracts to be	Eleven Months	Eleven Months
	Awarded	Awarded	1941	1940
PRIVATE BUILDING				
Assembly (Churches, Theatres, Audi-				
toriums, Fraternal)	\$934,000	\$2,102,000	\$17,754,000	\$17,936,000
Commercial (Stores, Restaurants, Filling				
Stations, Garages)	1.974.000	2,619,000	26,768,000	27,000,000
Residential (Apartments, Hotels, Dwell-				,,
ings)	43,403,000	2,749,000	129,474,000	91.684.000
Office	110,000	65,000	12,323,000	10,752,000
	\$46,421,000	\$7,535,000	\$186,319,000	\$147,372,000
INDUSTRIAL	\$106,682,000	\$161,885,000	\$1,226,985,000	\$343,713,000
PUBLIC BUILDING		,,	4-1	
City, County, State, Federal	\$32,478,000	\$92,228,000	\$789,518,000	\$376,047,000
Housing	9.953,000	62,450,000	146,318,000	88,931,000
Schools	3,088,000	18,810,000	35,395,000	25,379,000
	845,519,000	\$173,488,000	\$971,231,000	\$490,357,000
ENGINEERING	,,	4-101-001	4-1-1	4
Dams, Drainage, Earthwork, Airports	\$1,838,000	\$39,697,000	\$117,418,000	854,137,000
Federal, County, Municipal Electric	1.402,000	19,221,000	58,915,000	61,534,000
Sewers and Waterworks	2,478,000	36,965,000	23,319,000	9,716,000
	\$8,718,000	\$95,883,000	\$199,652,000	\$125,387,000
ROADS, STREETS AND BRIDGES	\$13,206,000	\$32,713,000	\$150,997,000	\$137,882,000
TOTAL	\$220,546,000	\$471,504,000	\$2,735,184,000	\$1,244,711,000

## Important New Industrial Plants and Expansions in the South During November

#### **ARKANSAS**

ARKANSAS

Plant—Carter Oil Co., J. R. McWilliams, Production Manager, National Bank Tulsa Bidg., Tulsa, Okla., let contract to Girdler Corporation, 224 E. Broadway, Loulsville, Ky., for equipment for proposed desulphurization plant to be built in McKamie field of Lafayette County 2 miles south of McKamie. Plant—The Aluminum Company of America, Gulf Bidg., Pittsburgh, Pa., selected A. P. Allen of its staff as construction superintendent for the \$33,000,000 aluminum plant to be located on Lake Catherine, near Malvern. Hot Spring County.

vern, Hot Spring County.

EL DORADO — plant — Zone Constructing Quartermaster's office, Omaha, Neb., announced that Chemical Construction Corporation, 30 Rockefeller Plaza, New York, received contract for architect-engineer for construction of Myrtle Grove anhydrous amounts and companying attack plant.

monia and ammonium nitrate plant, near

PINE BLUFF — bomb plant—War Department, Washington, D. C., has selected Sanderson & Porter, 52 William St., New York City, as architects, engineers and general contractors for construction of incendiary bomb plant.

#### GEORGIA

MILSTEAD - addition - Callaway Mills, MILSTEAD addition—canan, according to the contract to Newman Construction Co., LaGrange, for construction of additions to mill building at Milstead.

#### LOUISIANA

HARVEY — plant — Gervais F. Favrot, 330 Balter Bldg., New Orleans, general contractor for fertilizer plant for Swift & Co. let the following additional sub-contracts: lumber, Southland Lumber & Trading Co.; industrial track, Davies Sales & Engineering Co.; cement, Lone Star Cement Corp., and Jahncke Service, Inc., all New Orleans; hardware, rough, Sherwood A. Moore Ornamental Iron Co., Birmingham, Ala.



#### **Contracts Awarded**

#### MARYLAND

BALTIMORE — additions — American Hammered Piston Ring Division of the Kop-pers Co., let contract to Leimbach & Wil-liams, Inc., 30 W. Biddle St., for alterations and additions to building, Bush and Ham-burg Sts. cost \$200.000

nams, inc., 30 W. Biddie St., for alterations and additions to building, Bush and Hamburg Sts.; cost \$200,000.

BALTIMORE — building — Rustless Iron & Steel Corp., let contract to Cummings Construction Corp., 803 Cathedral St., for construction of mill building, 1000 Edison Highway; 1-story; metal; cost \$400,000; Oliver B. Wight, 803 Cathedral St., Archt. BALTIMORE — plant — James Stewart & Co., Inc., 230 Park Ave., New York, general contractor for tube mill for Revere Copper & Brass, Inc., let following subcontracts: reinforcing steel, Bethlehem Steel Co., Bethlehem, Pa.; boilers, E. Keeler Co., Williamsport, Pa.; steel sash, Truscon Steel Co., Youngstown, Ohio; structural steel, Bethlehem Steel Co., Stelhehem Steel Co., Stelhehem, Pa.

FAIRFIELD STA., BALTIMORE — plpe and electric shop—Maryland Drydock Co., let contract to Lacchi Construction Co., 337 St. Paul Place, Baltimore, for construction of place and electric shop—I E. Greiner Co.

st. Paul Place, Baltimore, for construction Co., 337
st. Paul Place, Baltimore, for construction
of pipe and electric shop; J. E. Greiner Co.,
1201 St. Paul St., Baltimore, Engr.

HAGERSTOWN — plant—War Department awarded an additional contract to
Fairchild Engine & Airplane plant, for
manufacture of planes and parts, totaling
81.122.002

#### MISSISSIPPI

MISSISSIPPI

FLORA — plant — S. & W. Construction
Co., Memphis, Tenn., associated with
Charles Weaver Construction Co., Inc., Jackson, Miss., Northeastern Construction Co.,
Winston-Salem, N. C., general contractors
for construction of \$11,000,000 ammunition
hag-loading plant let following subcontracts: 50,000 yds. of dry mixed concrete to
Birmingham Slag Co., Birmingham, Ala., at
\$378,000; two Diesel raliroad locomotives,
General Electric Co., Jackson, at \$77,000;
concrete building blocks, Jackson Stone Co.,
Jackson, at \$10,000; plant will be owned by
Government and operated by General Tire
& Rubber Co., Memphis, Tenn. & Rubber Co., Memphis, Tenn.

#### MISSOURI

ST. LOUIS — turrets — War Department awarded \$20,029,362 contract to Emerson Electric Manufacturing Co., 1824 Washing-ton St., for the manufacture of machine gun

turrets.

ST. LOUIS — building — Omar Tool & Machine Co., W. E. Ellinwood, President, 1828 N. 17th St., let contract to H. Kissel's Sons, 4107 West Florissant Ave., for construction of factory and office building, Natural Bridge and Palm; Cay G. Weinel, 6635 Delmar Blvd., University City, Archt.

#### NORTH CAROLINA

WILMINGTON - addition - Swift & Co., B. M. Washburn, Division Manager, let contract to W. A. Simon, for addition to fertilizer plant; approx. cost \$80,000; 140x224 ft.; storage capacity of 8,000 tons.

#### **OKLAHOMA**

CEMENT — gas line — Cities Service Oil Co., Tulsa, and Ray Stephens, Inc., will

Ceremonies attending the laying of the first keel on November 18 at the Savannah Machine and Foundry Company, ship-building division, shipyard at Savannah, Georgia, where construction was rushed so that early production could be started. start construction on a 16-inch natural gas line from Cement field to the Oklahoma City area; line will tie into the Cities Servie trunk system from Oklahoma City to southern Kansas; Cities Service Oil Co. will operate the line.

#### SOUTH CAROLINA

HAMPTON—factory—Plywood Products Corp. let contract to Lee Construction Co., Charlotte, N. C., for construction of plywood

#### TEXAS

TEXAS

Magnesium Plant—Austin Company, Cleveland, Ohlo and Freeport, Tex., received contract for construction of magnesium plant, 1 mile northwest of Velasco; annual capacity of 72,000 lbs.; operated by Dow Magnesium Corp., subsidiary of Dow Chemical Co.; financed by Defense Plant Corp., subsidiary of Reconstruction Finance Corporation; U. S. Government, owners.

Plant—Humble Oil & Refining Co., Nixon Bidg., Corpus Christi, let contract to Stearns-Roger Manufacturing Co., 1718-20 California St., Denver, Colo., for construction of \$3,000,000 recycling plant in Katy Oil Field, Waller County; will process upward of 200,000,000 cu. ft. of gas daily; 5,000 barrels of finished products per day; 200,-

barrels of finished products per day; 200,-000,000 cu. ft. of stripped gas will be returned daily to producing structure; located on 40-acre tract about 4-miles northwest of town of Katy.

AUSTIN — plant — International Agricultural Corp., 20 N. Wacker Drive, Chicago, Ill., announces that plants at Austin and Carlsbad, New Mexico are to be designed and constructed by Austin Company of Cleveland, Ohio.

Cleveland, Ohio.

AUSTIN — plant — Union Potash Co., subsidinry of the International Agricultural Company of New York, let contract to Austin Company, Cleveland, Ohio and Freeport, Tex., for designing and constructing magnesium plant, near Austin; financed by Defense Plant Corp., subsidiary of Reconstruction Finance Corporation.

FORT WORTH — runways, etc. — U. S. Engineer Office, Denison, let contract to Texas Bitulithic Co., 111 Commerce, at \$473,118 for construction of drainage, runways and taxiway paving and night lighting system at aircraft assembly plant, operated by Consolidated Aircraft Corp., San Diego, Calif. Calif.

by Consolidated Aircraft Corp., San Diego, Calif.

GABLAND — plant — National Concrete Fireproofing Co., Citizens Bidg., Cleveland, Ohlo, general contractors for Guiberson Diesel Engine Company's plant, let following subcontracts: stainless steel doors, Art Metal Construction Co., Jamestown, N. Y.; gates and fences, Cyclone Fence Division of American Steel & Wire Co., Bockefeller Bidg., Cleveland, Ohio; roofing, sheet metal and waterproofing, resilient flooring, Macatee & Sons, Houston, Tex.; railroad track, E. L. Martin; reinforcing steel, Mosher Steel Co., Houston, Tex.; valut doors, Charles Ott, Inc.; overhead doors, Overhead Door Company of Texas, Inc.; roof deck, floor deck and slding, H. H. Robertson Co., Farmers Bank Bidg., Pittsburgh, Pa.; tollet partitions, Sanymetal Products Co., 1705 Urbana Road, Cleveland, Ohio; miscellaneous and ornamental Iron, Weaver Co., El Paso, Texas; metal partitions, E. F. Hauserman Co., 6844 Grant Ave., Cleveland, Ohio; steel sash, Truscon Steel Co., Youngstown, Ohio; wood block flooring, Southern Wood Preserving Co., Atlanta, Ga.; ready mix concrete, Dallas Concrete Co., Dallas, Tex.; elevators, Otis Elevator Co., 260 - 11th Ave., New York; J. Gordon Turnbull, Dallas, Archts, and Engrs.

HOUSTON — building — General Metals Corp., Liberty & Homestead Road, let con-

HOUSTON — building — General Metals Corp., Liberty & Homestead Road, let con-tract to Peden Iron & Steel Co., 700 N. San

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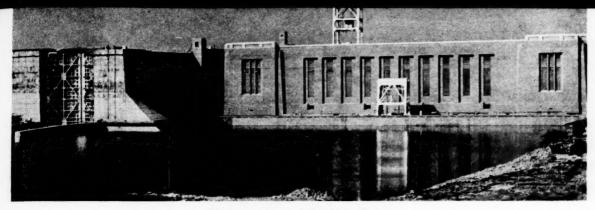
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Jacinto, for construction of a 90' x 80' saw tooth type building with 20' clear height to

tooth type building with 20' clear height to the bottom of the saw tooth, to house die shop and inspection department.

HOUSTON — barges — United States Maritime Commission let contract to San Jacinto Shipbuilders, Inc., for construction of 5 experimental concrete bulk cargo barges; approx. cost \$685,000 each, including cost of yard; H. C. Cockburn, 3201 University, head of company; barges will be approx. 350 ft. long and 54 ft. wide.

WACO — factory — Owens-Illinois Glass Co., Tower Petroleum Bldg., c/o Fisher N. Davis, Dallas, let contract to Inge Construction Co., Dallas, for glass factory; 1-story

tion Co., Dallas, for glass factory; 1-story with high ceiling; two wings of 2-stories; Roberts & Co., Atlanta, Ga., Archt.

#### VIRGINIA

NORFOLK—launchway — Welding Ship-yards, Inc., Army Base, received building permit and let contract to Tidewater Con-struction Corp., 547 Front, for construction of 620-foot launchway on the property of Virginian Railway at Sewalls Point; approx. cost \$100,000; 500 ft. long on land and 120 ft. in the water.

RICHMOND - building - Philip Morris RICHMOND — building — Philip Morris & Co., let contract to Laburnum Construction Corp., 918 E. Main St., for construction of \$300,000 4-story brick building, 8th and Everett Sts. in South Richmond; 117 x 190 ft.; will be constructed of materials not needed in defense; Baskervill & Son, Central National Bank Bldg., Archts.

VERONA — plant — Celanese Corporation of America let contract to Echols Brothers, Stannton, for excavating work and grading

Staunton, for excavating work and grading at site of large plant near Verona.

#### WEST VIRGINIA

RALEIGH -- expansion -- Chesapeake & RALEIGH — expansion — Chesapeake & Ohio Railroad let contract to Ogle Construction Co., 28 E. Jackson, Chicago, Ill., for expansion of facilities at railroad yards; approx. cost \$200,000; includes new steel and conc. coaling station of 300-ton capacity; two new inspection pits; installation of electrically operated cinder conveyor sys-tems; railroad will soon let contract for erection of a 300,000-gallon water reservoir.

#### Contracts Proposed

#### **ALABAMA**

CHILDERSBURG—plant—War Department allotted \$380,000 additional funds for expansion of the Alabama Ordnance Works.

#### ARKANSAS

Plant—Jesse Jones, Federal Loan Admin-istrator, announced that aluminum plant and its power facilities, would be located on Lake Catherine, near Malvern; plant will have annual capacity of 128,000,000 lbs. of alumium; approx. cost \$33,000,000; will be bullt and operated, under a 5-year lease,

be built and operated, under a 5-year lease, by the Aluminum Company of America, Gulf Bldg., Pittsburgh, Pa.
Pipeline—Arkansas-Louisiana Gas Co., Little Rock, will construct pipeline from McKamie gas field in Columbia County to the site of \$33,000,000 aluminum plant near Remmel dam on the Ouachita River in Hot Springs County; will supply 40,000,000 cut, of gas daily to the plant for generation of electric power; McKamie field is 80 air-

The power house of the Santee-Cooper hydro-electric power project, fifty miles north of Charleston, South Carolina. Equipment consists of four 40,000 h.p. turbines directly connected to four 34,000 kilovolt ampere generators and one 13,300 h.n. turbine connected to one 11,350 genfor defense industrial purposes about December 31.

line miles from the plant site; estimated

BLYTHEVILLE - mill - B. A. Lynch, Chairman Committee, plans construction of nylon hosiery mill; to install approx. \$400,-000 equipment if City raises \$50,000 for building.

#### **FLORIDA**

FLORIDA
CLEWISTON—laboratory—United States
Sugar Corp., plans construction of laboratory; first unit 2-story, 80 x 52 ft., main
structure permitting addition of 5-wings,
testing area on roof, 50 foot tower, 4-research laboratories engineering and office
space 30 x 90 ft.; M. H. Connell & Associates, Miami, Mech. Engr.; approx. cost including equipment \$250,000; L. Phillips
Clarke, West Palm Beach, Archt.
MIAMI—expansion—RFC, in connection
with the National Defense Program authorized a loan of \$600,000 to Intercontinent
Aircraft Corp.

#### **GEORGIA**

SAVANNAH — plant — Priority permits have been granted to the Nelio Resin Proc-cessing Corn. of Jacksonville, Fla., H. M. essing Corp. of Jacksonville, Fla., H. M. Wilson, Vice President, Jacksonville, Fla., for construction of chemical naval stores distillation plant representing an investment of \$200,000.

VIDALIA—plant—Gum Turpentine Farmers Cooperative Association received loan of \$144,000 from The Farm Security Administration for the construction of 65,000 barrel capacity turpentine distillation plant; project includes construction, operation, put in storage facilities and laboratory and de-velop a marketing system.

#### LOUISIANA

Plant—Premier Oil Refining Company, Sylvester Drayson, President, Longview, Texas, plans construction of \$1,730,000 aviation fuel plant in Cotton Valley field, Webster Parish, La.

Gas Line—Memphis Natural Gas Co., Memphis, Tenn., Birger L. Johnson, President, announced construction of \$1,200,000 gas line project in 3 sections; first section to run 31.4 miles, starting at Robinsonville.

gas line project in 3 sections; first section to run 31.4 miles, starting at Robinsonville, Miss., and extending south to Lulu, Miss.; second begins at Cleveland, Miss., and extends south 14.5 miles; third begins near Eudora. Ark., 16.1 miles; project includes an addition of 62 miles of 18-inch pipe line and will parallel present line; construct two 1000 b.p. compressor units at field station. 1000 h.p. compressor units at field station at Guthrie, La., work to begin in June; H. L. Stowers, Assistant Chief Engr. EUNICE—plant—Humble Oil Co., Nixon

BUNICE—Plant—Humble Oil Co., Nixon Bldg... Corpus Christi, together with Phil-lips Petroleum Co., Texas Co., and Tide-water Oil Co., plan erection of a recycling plant to utilize the huge gas reserve, at the Erath oil field. LAKE CHARLES — plant — Mathieson

Alkali Works, Inc., 60 E. 42nd St., New York, plans construction of \$6,000,000 sodium

nitrate plant; production of soda ash will increase from 50 tons to 1000 tons daily upon completion of new plant.

LAKE CHARLES — plants — Mathieson Alkali Works, Inc., I. V. Maurer, Manager, plans construction of a \$250,000 dry lee plant and a \$1,000,000 ammonia and chlorine

NEW ORLEANS-building-Blue Plate Foods, Inc., plans construction of 3-story monolithic concrete food processing build-

ing. Jefferson Davis Parkway in the square ing, Jefferson Davis Parkway in the square bounded by Thalia, S. Claiborne and Erato Sts.; rein. conc. found.; composition roofing; tile flooring; August Perez, Archt.

NEW ORLEANS — shipyards—Pendleton Shipyard Company Inc., Pendleton E. Lehde, President, plans construction of new shipulding plant on Industrial Canal; Barnard-Godat & Heft, Consulting Engrs.; includes construction of 4 200-foot shipways, outfitting dock assembly shops. ware-

cludes construction of 4 200-foot shipways, outfitting dock, assembly shops, warehouses, plant, office building, etc.: approx. cost \$500,000; Company has submitted blds to Maritime Commission for the building of six tugs at a cost of \$1,100,000 each, if awarded contract construction of plant will start at once: James M. Todd, Engr.

NEW ORLIEANS—Tension System, J. G. White Engineering Corp., received bids November 12 for construction of high tension system for two additional shipways for

system for two additional shipways for Louisiana Shipyards on Industrial Canal. WESTWEGO—expansion—Defense Plant Corporation, RFC subsidiary, at request of

Maritime Commission, authorized execution of lease agreement with Avondale Marine Ways, Inc., to provide for purchase of machinery and equipment at a cost of \$116,000 to be used in plant at Westwego, for manufacture of naval vessels.

#### MARYLAND

BALTIMORE—dry dock—Shields & Co., 44 Wall St., New York, acquired controlling share in Maryland Drydock Co.; Baltimore plant has been expanding facilities for defense program, entered into agreement with Government for additional facilities for re-pair and conversion of naval vessels and other craft at cost of \$5,000,000; facilities pair and conversion of naval vessels and other craft at cost of \$5,000,000; facilities will be constructed under supervision of the management but will be owned by the Government; will construct additional wharf, 500-ft, pier and crane, and supplementary facilities including machine shops, compressors and machine tools sufficient to allow berthing of 28 vessels at one time; additional facilities scheduled for completion about the middle of 1942; will increase company's capacity by 75%; Lacchi Construction Co., 337 St. Paul Place, Baltimore, reported, low bidder for office building at Fairfield, station Baltimore; J. E. Greiner Co., 1201 St. Paul St., Engrs.

BALTIMORE—plant—Defense Plant Corporation, subsidiary of R.F.C., authorized execution of a lease agreement with Bendix Aviation Corporation, Julian B. Friez & Son division, for construction and equipment of plant to be used in manufacture of aircraft equipment; cost \$380,715; approx. \$232,200 for land and buildings and \$148,516 for equipment.

BALTIMORE—pipe line—Sinclair Oil Co.

BALTIMORE-pipe line-Sinclair Oil Co. reported planning construction of branch pipe line, from Baltimore to Marcus Hook, (Continued on page 52)

## National Defense Program Awards in the South

#### ALABAMA

Value of Total Awards June 1940 Through October 1941

Army and Navy	\$408,126,000
Maritime Commission	166,023,000
Civil Aeronautics Authority	339,000
U. S. Housing Administration	4,239,000
Public Buildings Administration	1,409,000
Works Progress Administration	5,804,000
Office of Education	1,931,000
National Youth Administration	1,354,000
Reconstruction Finance Corpora-	
**	× 000 000

#### CONTRACTS AWARDED SEPTEMBER 28 TO NOVEMBER 15

#### Chemical Warfare

William L. Barrell Co., Inc., New York., N. Y. (for mfr. at Lincoln Mills, Huntsville, Ala.), waterproof duck, \$88,982.

#### Ordnance

Stockham Pipe Fittings Co., Birmingham, Ala., shells, \$271,260.

★Rockwood Alabama Stone Co., Russellville, Ala., shells, \$1,026,150.

#### Corps of Engineer

Moore-Handley Hardware Co., Birmingham, Ala., electric lighting fixtures, \$55,901.

Universal Atlas Cement Co., Birmingham, Ala., cement, \$163,980.

#### Quartermaster Corps

Wm. L. Barrell Co., Inc., New York, N. Y. (The Lincoln Mills of Ala., Huntsville, Ala.), 250,000 yds. duck, cotton, tent, \$70,-

West Point Mfg. Co., New York, N. Y. (West Point Mfg. Co., Langdale Mill, Langdale, Ala.), 200,000 yds. duck, cotton, tent, \$55,540.

West Point Mfg. Co., New York, N. Y. (West Point Mfg. Co., Lanett Mill, Lanett, Alabama), 1,000,000 yds. cloth, cotten, twill, \$242,400.

Nashua Mfg. Company, Boston, Mass. (Mills: Nashua, N. H., Lanott Bleachery & Dye Works, Lanett, Ala.), 1,300,000 yds. cloth, cotton, herringbone, twill, \$466,644.

Brookside Mills, New York, N. Y. (Dyeing & Finishing Mill; Lanett Bleachery & Dye Works, Lanett Ala.), 437,500 yds. new O. D. cotton tent duck, \$179,113.

Mt. Vernon-Woodberry Mills, Inc., Baltimore, Md. (Tallassee Mills, Tallassee, Ala.), 2,100,000 yds. duck, cotton, tent, \$570,300.

West Point Mfg. Co., New York, N. Y. (Mill: Fairfax, Ala.), 700,000 ea., bath towels, \$96,-

ceves Brothers, Inc., New York, N. Y. (Dwight Mfg. Co., Alabama City, Ala., and Alabama Mills, Inc., various points in Ala.), 1,702,000 yds. cotton twill tent cloth, \$472,135

#### ARKANSAS

#### Value of Total Awards June 1940 Through October 1941

Army and Navy	\$196 073 BB6
Works Progress Administration	1,420,000
Office of Education	1,158,000
National Youth Administration	911,000
Reconstruction Finance Corpora-	
Alma	499 000

#### **FLORIDA**

#### Value of Total Awards June 1940 Through October 1941

Army and Navy	\$223,824,000
Civil Aeronautics Authority	1,364,000
Federal Works Administration	1,408,000
U. S. Housing Administration	2,636,000
Public Buildings Administration	2,581,000
Works Progress Administration	15,438,000
Office of Education	2,120,000
National Youth Administration	707,000

#### CONTRACTS AWARDED SEPTEMBER 28 TO NOVEMBER 15

#### Ordnance

outhern Engineering & Metal Products Corp., Miami, Florida, projectiles, \$210,000.

#### October Contracts for \$1,000,000 and more are denoted by \*

#### **GEORGIA**

Value of Total Awards June 1940

Army and Navy	\$172,057,000
Maritime Commission	21,160,000
Civil Aeronautics Authority	739,000
Federal Works Administration	664,030
U. S. Housing Administration	3,346,000
Public Buildings Administration	2,517,000
Works Progress Administration	4,455,000
Office of Education	2,061,000
National Youth Administration	1,509,000
Reconstruction Finance Corpora-	
41	470 000

#### CONTRACTS AWARDED SEPTEMBER 28 TO NOVEMBER 15

#### Ordnance

J. P. Stevens & Co., Inc., New York, N. Y. (for mfr. at Exposition Cotton Mills, At-lanta, Ga. and Scottdale Mills, Scottdale, Ga.), target cloth, \$120,470.

Corps of Engineers

Atlantic Creosoting Co., Inc., New York, N.
Y. (for mfr. at Savannah, Ga.), rough
sawn timbers, \$33,413.

. G. LeTourneau, Inc., Peoria, Ill. (for mfr. at Toccoa, Ga.), wagon scrapers and parts, \$89,323.

parts, \$89,323.

Chemical Warfare
William L. Barrell Co., Inc., New York, N.
Y. (for mfr. at Grey Goods, Bibb Mfg.
Co., Macon, Ga.), waterproof duck, \$88,382.
Wm. L. Barrell Co., New York, N. Y. (for
mfr. at Bibb Mfg. Co., Porterdale, Ga.,
finish at Martin Dyeing & Faishing,
Bridgeto, N. L. duck, catton, Col. Bridgeton, N. J.), duck, cotton.

## Quartermaster Corps Muscogee Mfg. Co., Columbus, Ga., 150,000 ea., bath towels, \$69,450. Georgia-Kincaid Mills, Griffin, Ga., 350,000

ea., bath towels, \$141,050.

Callaway Mills, LaGrange, Ga. (for mfr. at Manchester, Ga.), 160,000 yds. cotton duck,

892,128.

Peerless Woolen Mills, Rossville, Ga., 100,000 ea., blankets, wool, O. D., \$665,000.

J. P. Stevens & Co., Inc., New York, N. Y.
(for mfr. at Yarn and Grey Goods Mills:
Whittier Mills, Chattahoochee, Ga., and
Scottdale Mill, Scottdale, Ga.), 1,288,000
yds, cotton duck, \$409,842.

yus, cotton duck, 4405,522.

A. D. Julliard & Co., Inc., New York, N. Y. (for mfr. at Yarn Mill: Dallas Mills, Dallas, Ga., Grey Goods Mill: Aragon Mills, Aragon, Ga., 400,000 yds, cotton duck, \$123.-

120.

Eagle & Phenix Mills, New York, N. Y.
(Mill: Columbus, Ga.), 500,000 yds. cloth, cotton, herringbone, twill, \$179,650.

\*Callaway Mills, LaGrange, Georgia, (Callaway Mills, Manchester Plant, Manchester, Georgia; Callaway Mills, Hillside Plant, LaGrange, Georgia), 4,761,000 yds. duck, cotton, tent, \$1,533,156.

cotton, tent, \$1,535,199.

Couch Brothers Mg. Co., East Point, Ga., 15,000 ca., tents, wall, small, \$51,759.

Golden City Hosiery Mills, Inc., Villa Rica, Ga., 400,000 pr. socks, cotton, tan, \$55,000.

J. P. Stevens & Company, Inc., New York, New York, (Exposition Cotton Mills, Atlanta Cottan, Co., 1, 100,000 walls, and cottan, cotton, cott

New YOFK, (Exposition Cotton Mills, Atlanta, Ga.), 1,000,000 yds. cloth, cotton, twill, tent, \$285,000.

Richmond Hosiery Mills, Rossville, Ga., 400,000 pr. socks, cotton, tan, \$55,360.

Palmetto Cotton Mills, New York, New York, (Palmetto, Georgia), 630,000 yds. duck, cotton, tent, \$158,-050

Washington Mfg. Co., New York, N. Y., (Washington Mfg. Co., Tennille, Ga.), 365,-000 yds. duck, cotton, tent, \$89,898.

Reeves Brothers, Inc., New York, N. Y., (Pacolet Mfg. Co., New Holland, Ga.), 500,-000 yds. cotton twill tent cloth, \$138,700. Reeves Bros., Inc., New York, N. Y., (for mfr. at Pacolet Mfg. Co., New Holland, Ga.), 351,000 yds. cotton twill cloth, \$97,-

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#### KENTUCKY

Value of Total Awards June 1940 Through October 1941

Army and Navy	\$74,457,000
Civil Aeronautics Authority	324,000
Public Buildings Administration	2,753,000
Works Progress Administration	5,414,000
Office of Education	1,687,000
National Youth Administration.	1,176,000
Reconstruction Finance Corpora-	

#### CONTRACTS AWARDED SEPTEMBER 28 TO NOVEMBER 15

#### Ordnance

Henry Vogt Machine Co., Louisville, Ky.,

#### Corps of Engineers

The Armco International Corp., Middletown, Ohio, (for mfr. at Ashland, Ky.), galvanized pipes with fittings, \$95,259.

#### LOUISIANA

Value of Total Awards June 1940 Through October 1941

Army and Navy	\$177,011,000
Maritime Commission	45,941,000
Civil Aeronautics Authority	841,000
U. S. Housing Administration	1,076,000
Public Buildings Administration	2,216,000
Works Progress Administration	6,624,000
Office of Education	1,581,000
National Youth Administration	1.054,000
Reconstruction Finance Corpora-	
tion	2,500,000

#### CONTRACTS AWARDED SEPTEMBER 28 TO NOVEMBER 15 Corps of Engineers

Standard Oil Co. of La., Baton Rouge, La., asphalt, Grimes Airport, near Dothan, Ala-bama, \$92,038.

Maritime Commission

\*Avondale Marine Ways, Inc., New Orleans, La., four seagoing tugboats V4-M-A1, \$4,-

#### MARYLAND

Value of Total Awards June 1940 Through October 1941

Intough October 201	-
Army and Navy	\$824,204,000
Maritime Commission	183,847,006
Federal Security Administration	1,274,000
U. S. Housing Administration	5,387,000
Public Buildings Administration	10,627,000
Works Progress Administration	5.921,000
Office of Education	1,626,000
National Youth Administration.	733,000
Reconstruction Finance Corpora-	
tion	272,000

#### CONTRACTS AWARDED SEPTEMBER 28 TO NOVEMBER 15 Maritime Commission

Lancaster Iron Works, Perryville, Md., four coastal tankers, \$2,800,000†. Air Corps The Davison Chemical Corp., Baltimore, Md.,

Desiceant, corrosion preventive, \$112,500.

★Fairchild Engine & Airplane Corp., Fairchild Aircraft Div., Hagerstown, Md., airplanes and parts, \$4,329,909.

★Glenn L. Martin Co., Baltimore, Md., turret assemblies, \$19,007,248.

C. R. Daniels, Inc., New York, N. Y., (C. R. Daniels, Inc., Alberton, Md.), 2,950,000 yds.—dyeing and finishing grey twill, \$405,-

Mm. E. Hooper and Sons Co., Baltimore, Md., 8,051,000 yds. dyeing and finishing grey duck to olive drab, \$954,285.
W. J. Dickey & Sons, Inc., Oella, Md., 25,000 yds. cloth, overcoating, O.D., \$63,431.
Maryland Workshop for the Blind, Baltimore Md. 18,1000 geogetic millow concerns.

more Md., 184,000 ea., cotton pillow cases,

MANUFACTURERS RECORD FOR

DEC

<sup>†</sup> Approximate total cost.

#### Ordnance

General Motors Corp., Detroit Mich., (for mfr. at Chevrolet Motor Div., Baltimore, Md.), trucks, \$187,141.

\*U. S. Cartridge Co., Baltimore, Md., cartridges, \$1,157,260.

H. B. Davis Co., Baltimore, Md., primer and

enamel, \$334,172

enamel, \$83,1,72.

Revere Copper & Brass, Inc., Baltimore, Md., (for mfr. at Rome, N. Y., and Baltimore, Md.), cartridge brass clippings, \$445,638.

Triumph Explosives, Inc., Elkton, Md., fuze assemblies, \$75,445.

Koppers Co., Bartlett-Hayward Div., Baltimore, Md., medianests, \$201,500.

Koppers Co., Bartlett-Hayward Div., Balti-more, Md., weldments, 8221,500.

Signal Corps
Graybar Electric Co., Inc., New York, N. Y.,
(for mfr. at Western Electric Co., Inc., Pt.
Breeze, Md.), cable and reeds, 8965,887.

Julien P. Friez & Sons, Baltimore, Md., wind
intensity transmitters, wind direction
transmitters weather remoke and worther

recorders, weather panels and weather recorders, \$287,547.

Bendix Radio Corp., Baltimore, Md., (for mfr. at Towson, Md.), radio equipment, \$178,483.

#### MISSISSIPPI

Value of Total Awards June 1940 Through October 1941

Army and Navy	\$136,329,000
Maritime Commission	32,800,000
Civil Aeronautics Authority	441,000
Federal Security Administration	110,000
U. S. Housing Administration	596,000
Public Buildings Administration	148,000
Works Progress Administration	5,014,000
Office of Education	1,701,000
National Youth Administration.	1.055,000
Reconstruction Finance Corpora-	
41	

CONTRACTS AWARDED SEPTEMBER 28
TO NOVEMBER 15
Signal Corps
Supreme Instrument Corp., Greenwood,
Miss., analyzers, oscillators, tube & set
checkers & oscilloscopes, \$106,378.

#### MISSOURI

Value of Total Awards June 1940 Through October 1941

Intough October 101	
Army and Navy	\$701,684,080
Federal Works Administration .	1,466,000
Public Buildings Administration	1,891,000
Works Progress Administration	18,827,000
Office of Education	1,764,000
National Youth Administration.	1,570,000
Reconstruction Finance Corpora-	
41	=00 an

#### CONTRACTS AWARDED SEPTEMBER 28 TO NOVEMBER 15

#### Signal Corps

Benwood Linze Co., St. Louis, Mo., rectifiers switches, connectors, capacitors, etc., \$37, 687.

#### Air Corps

★The Emerson Electric Mfg. Co., St. Louis, Mo., machine gun turrets, \$20,029,363, Keystone Trailer & Equipment Co., Kansas

Mo., trailers and dolly converters,

Corps of Engineers

A. Leschen & Sons Rope Co., St. Louis, Mo., wire rope, \$108,438.

Dewey Portland Cement Co., Kansas City, Mo., cement, \$109,980.

#### Medical Corps

Buck X-Ograph Co., St. Louis, Missouri, dryer & loading bin combination, 852,535. Buck X-Ograph Co., St. Louis, Mo., cassettes and intensifying screens, \$108,140

Ordnance

Mines Equipment Co., St. Louis, Mo., lights, aiming posts, \$70,339.

Setton Fibre Can Co., St. Louis, Mo., fibre containers, \$706,789.

Wilde Drop Forge & Tool Co., Kansas City, Mo., bayonets, \$200,400.

Quartermaster Corps Baker-Lockwood Mfg. Co., Inc., Kansas City, Mo., 1,700,000 ea. canteen covers, \$136,-

Brown Shoe Co., Inc., St. Louis, Mo., 20,000

prs. shoes, low quarter, tan, \$63,000.

Burlington Mfg. Co., Kansas City, Missouri,
75,000 working suits, \$85,500.

International Shoe Company, St. Louis, Mo.,
118,750, pr. saving shops, \$410,875.

118,750 pr. service shoes, \$410,875. Smith & Davis Mfg. Co., St. Louis, Mo., 25,-000 cots, folding, steel, \$80,050.

#### NORTH CAROLINA

Value of Total Awards June 1940

Through October 194	1
Army and Navy	\$165,945,000
Maritime Commission	64,549,000
Federal Security Administration	70,000
Federal Works Administration.	4,170,000
U. S. Housing Administration	2,220,000
<b>Public Buildings Administration</b>	1,543,000
Works Progress Administration	6.606,000
Office of Education	1,842,000
National Youth Administration.	1,560,000
Reconstruction Finance Corpora-	
tion	5,000

#### CONTRACTS AWARDED SEPTEMBER 28 TO NOVEMBER 15

J. P. Stevens & Co. Inc., New York, N. Y., (for mfr. at Rhodhiss Mills Co., Rhodhiss, N. C.), target cloth, 860,235,

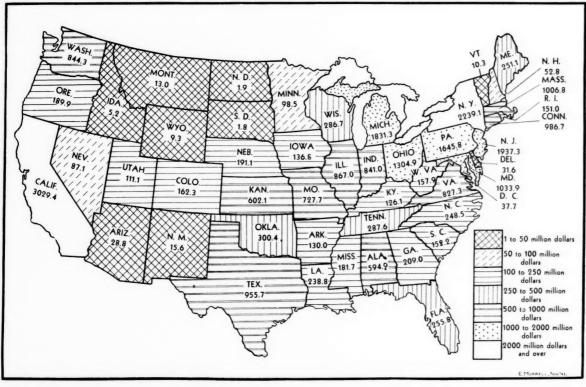
Chemical Warfare Beacon Mfg. Co., New York, N. Y., (for mfr. at Swannonoa, N. C.), cotton blankets, \$284,771.

#### Quartermaster Corps

Quartermaster Corps
Windsor Co., Windsor, Conn., (Mill: Cannon Mills, Kannapolis, N. C.), 2,003,180
bath towels, 8807,282.
The Leaksville Woolen Mills, Inc., Charlotte, N. C. (Mill: Homestead, N. C.), 150,000
blankets, wool, O.D., 8992,250,
\*\*Chatham Mig. Co., Elkin, N. C., 385,000
blankets, wool, O.D., \$2,533,300.

Batavia Mills, Inc., New York, N. Y., (Mill:
Mooresville Cotton Mills, Mooresville, N. C.) 480,000 working suits, \$193,247.

Defense contract awards of all Federal agencies through October was \$27,777,024,000. Of this, \$6,465,095,000 has gone to southern states. Totals for each state are shown on the map below in millions of dollars.



Marshall Field & Co., Spray, North Carolina, 37,500 O.D. wool blankets, \$249,375.

Marshall Field & Co., Spray, N. C., 75,000 bath towels, \$78,750.

White Falls Company, Inc., New York, N. Y. (N. C. Finishing Co., Yadkin, N. C.), 323,000 yds. drill, cotton, unbleached, \$79,550.

Arkwright Mills, Royal F. Spatz, Attorney, New York, N. Y. (Mill: Erwin Cotton Mills, Cooleemee, N. C.), 600,000 yds. drill, cotton, unbleached, \$145,500.

Waldensian Hoslery Mills, Inc., Valdese, N. C., (Mills: Waldensian Valdese, N. C. Knit Sox Hoslery Mills, Hickory, N. C.), 600,000 pr. socks, cotton, tan, \$94,600.

Blue Bell-Globe Mfg. Co., Greensboro, North Carolina, 50,000 working suits, \$53,500.

Guilford Hoslery Mills, Inc., High Point, N. C., 750,000 pr. socks, cotton, tan, \$106,075.

Corbitt Co., Henderson, North Carolina, 45,000 yds. cloth, overcoating, O.D., \$117,900.

Ragan Knitting Company, Thomasville, N.

\$117,900.

Ragan Knitting Company, Thomasville, N. C., 900,000 pr. socks, cotton, tan, \$127,125.

The Windsor Co., Windsor, Conn., (Mill: Cannon Mills, Kannapolis, N. C.), 100,000 bath towels, \$105,000.

Harriss & Covington Hosiery Mills, Inc., High Point, N. C., 380,000 pr. socks, cotton, tan \$53,814

tan, \$54,844.

tan, \$54.844.

Thomas Mills, Inc., High Point, N. C., 1,
440,000 pr. socks, cotton, tan, \$208,368.

Chatham Mfg. Co., Elkin, North Carolina, 100,000 yds. suiting, wool, O.D., \$237,500.

Maurice Mills Company, Thomasville, N. C.,

Maurice Mills Company, Thomasville, N. C., 900,000 pr. socks, cotton, tan, \$127,650.

O. E. Kearns & Son, Inc., High Point, N. C., socks, cotton, tan, 450,000 pr., \$64,070.
The Windsor Co., Windsor Conn., (Mill: Cannon Mills, Kannapolis, N. C.), 2,905,372 bath towels, \$14,261.
Cone Export & Commission Co., New York, N. Y., (Mill: Cliffside Mill, Cliffside, N. C.), 780,000 towels, bath, \$311,142.

#### **OKLAHOMA** Value of Total Awards June 1940 Through October 1941

Army and Navy	\$293,225,000
Civil Aeronautics Authority	549,000
<b>Public Buildings Administration</b>	465,000
Works Progress Administration	3,454,000
Office of Education	1,284,000
National Youth Administration.	1,211,000
Reconstruction Finance Corpora-	
tion	210,000
CONTRACTS AWARDED SEPT	EMBER 28

#### TO NOVEMBER 15 Corps of Engineers

klahoma Portland Cement Co., Oklahoma City, Okla., cement, \$101,520.

#### SOUTH CAROLINA Value of Total Awards June 1940 Through October 1941

Army and Navy	.\$128,568,000
Civil Aeronautics Authority	1,211,000
U. S. Housing Administration	3,660,000
Public Buildings Administration	1,059,000
Works Progress Administration	15,084,000
Office of Education	1,478,000
National Youth Administration.	870,000
Reconstruction Finance Corpora-	
tion	230,000

#### CONTRACTS AWARDED SEPTEMBER 28 TO NOVEMBER 15

#### Ordnance

Wannamaker Chemical Co., Inc., Orangeburg, S. C., explosive, \$180,000.
Chemical Warfare
Mt. Vernon Woodberry Mills, Inc., Baltimore, Md., (for mfr. at Columbia Mills, Columbia, S. C., finish at Martin Dyeing & Finishing, Bridgeton, N. J.), duck, cotton, O.D., \$145,663.
Ountargranter Control

Quartermaster Corps

Quartermaster Corps

Reeves Brothers, Inc., New York, N. Y.,
(Ninety-Six Cotton Mill, Ninety-Six, S. C.,
and Beaumont Cotton Mill, Spartanburg,
S. C.), 1,702,000 yds, cotton twill tent cloth,
4472,135.

Riegel Textile Corp., New York, New York, (Mill: Ware Shoals Mfg. Co., Ware Shoals, S. C.), 750,000 yds. padding, canvas, cot-ton, \$129.675.

Pacific Mills, New York, N. Y., (Mill: Lyman, S. C.), 180,000 yds. cloth, cotton, herringbone, twill, \$63,252.

Pacific Mills, New York, N. Y., (Mill: Beaumont Mills, Spartanburg, S. C.), 2,800,000 yds. cloth, lining, uniform, \$514,500.

\*Beaumont Mfg. Co., Spartanburg, S. C., 4,380,000 yds. duck, cotton, tent, \$1,786,088.

Ninety-Six Cotton Mill, New York, N. Y., (Ninety-Six Cotton Mill, Ninety-Six, S. C.), 1,050,000 yds. cloth, cotton, twill, tent, \$276,360.

\$276,360.

Riegel Textile Corp., New York, N. Y., (Mill: Ware Shoals Mfg. Co., Ware Shoals, S. C.), 173,000 aprons, \$76,244.

Blair Mills, Belton, S. C., 125,000 ea., bath

towels, \$50,375.

#### TENNESSEE

#### Value of Total Awards June 1940 Through October 1941

Army and Navy	\$278,851,000
Civil Aeronautics Authority	139,000
Federal Security Administration	115,000
Federal Works Administration.	787,000
U. S. Housing Administration	775,000
Works Progress Administration	3,293,000
Office of Education	2,287,000
National Youth Administration.	1,302,000
Reconstruction Finance Corpora-	
tion	15,000

#### CONTRACTS AWARDED SEPTEMBER 28 TO NOVEMBER 15

#### Air Corps

Vultee Aircraft, Inc., Nashville Division, Nashville, Tenn., maintenance parts for airplanes, \$212,176.

Ordnance
Continental Piston Ring Co., Memphis,
Tenn., projectiles, \$400,000.
Buckeye Cotton Oil Co., Memphis, Tenn.,
cotton linters, \$186,841.

#### Quartermaster Corps

Southern Athletic Co., Inc., Knoxville, Tenn., 201,100 covers, mattress, cotton, \$301,490. Knoxville Awning Tent and Tarpaulin Co., Knoxville, Tenn., 50,000 covers, mattress,

cotton, \$75,000. General Shoe Corporation, Nashville, Tenn., 25,000 pr. shoes, low quarter, tan, \$78,750. 15,000 pr. shoes, low quarter, tan, \$78,750. 1500 pr. shoes, low York, N. Y., (Yarn & Grey Goods Mill: Brookside Mills, Knoxville, Tenn.), 437,500 yds. new O.D. cotton tent duck, \$179,113.

#### TEXAS

#### Value of Total Awards June 1940 Through October 1941

Army and Navy	\$855,190,000
Maritime Commission	66,199,000
Civil Aeronautics Authority	2,049,000
Federal Security Administration	109,000
Federal Works Agency	1,782,000
U. S. Housing Administration	2,792,000
Public Buildings Administration	3,997,000
Works Progress Administration	14,626,000
Office of Education	4,716,000
National Youth Administration.	2,959,000
Reconstruction Finance Corpora-	
tion	1 944 000

#### CONTRACTS AWARDED SEPTEMBER 28 TO NOVEMBER 15

Corps of Engineers
exas & Pacific Railway Co., Dallas, Tex.
(for mfr. at Big Spring and Marshall, Tex-

as, locomotives, \$61,470.

Ordnance
Texas Tanning & Mfg. Co., Yoakum, Texas, holsters, \$71,500.

McEvoy Co., Houston, Texas, tripod mounts,

Maritime Commission an Jacinto Shipbuilders, Inc., Houston, Tex., five concrete bulk cargo barges, \$3, 000,000.†

Air Corps

North American Aviation, Inc. of Texas,
Dallas, Texas, carburetor assemblies, \$56,-

102.
The Humble Oil & Refining Co., Houston,
Texas, lubricating oil, \$57,165.
Quartermaster Corps
The Hettrick Mfg. Company, Toledo, Ohio,
(Denison Cotton Mill Co., Denison, Texas),
75,000 yds. duck, cotton, tent, \$18,469.

†Approximate total cost.

San Antonio Cotton Mills by T. A. Shaw Co., Selling Agent, Southton, Texas, 500,-000 yds. duck, cotton, tent, \$262,500. Sherman Mfg. Co., New York, New York, (Sherman Mfg. Co., Sherman, Texas), 650,-000 yds. duck, cotton, tent, \$157,105.

## VIRGINIA Value of Total Awards June 1940 Through October 1941

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THIOUGH OCCOUNT TO	-
Army and Navy	\$806,197,000
Federal Security Administration	1,290,000
Federal Works Administration	375,000
U. S. Housing Administration	7,093,000
Public Buildings Administration	3,634,000
Works Progress Administration	5,562,000
Office of Education	1,970,000
National Youth Administration.	1,143,000
Reconstruction Finance Corpora-	
tion	7,000

#### CONTRACTS AWARDED SEPTEMBER 28 TO NOVEMBER 15

#### Corps of Engineers

Atlantic Creesoting Co., Inc., New York, N. Y., (for mfr. at Norfolk, Va.), rough sawn timbers, \$33,413.

Ordnance

Tredegar Co., Richmond, Va., projectiles, \$70,735. Hercules Powder Co., Hopewell, Va., cotton linters, \$214,830.

\*Reynolds Research Corp., Reynolds Metalt Co., Subsidiary, Richmond, Va., fiber containers, \$1,070,205.

Quartermaster Corps

Riverside & Dan River Cotton Mills, Inc.,
New York, N. Y., (Mill: Danville, Va.),
200,064 cotton sheets, \$210,067.

J. W. Hurst & Son Awnings, Inc., Norfolk,
Va., 15,000 ea., cotton tents, duck, \$55,900.
The Stuart Keith Mig. Co., Petersburg, Va.,
190,400 ea., cotton mattress covers, \$211,344.

Hampton Looms of Virginia, Inc., Bedford,
Virginia, 37,500 yds. cloth, serge, O.D.,
\$115,500.

\$115,500. Marshall Field & Co., Spray, N. C., (Mill: Fieldale, Va.), 210,000 bath towels, \$83,412. Marshall Field & Co., Spray, N. C., (Mill: Fieldale, Va.), 400,000 huck towels, \$54,580.

#### WEST VIRGINIA

#### Value of Total Awards June 1940 Through October 1941

Army and Navy	\$141,331,000
U. S. Housing Administration	1,364,000
Works Progress Administration	12,391,000
Office of Education	1,964,000
National Youth Administration.	816,000
Reconstruction Finance Corpora-	
	4= 000

#### CONTRACTS AWARDED SEPTEMBER 28 TO NOVEMBER 15 Ordnance

Ordnance
Barium Reduction Corp., South Charleston,
W. Va., (for mfr. at Charleston, W. Va.),
strontium peroxide, \$53,200.
Signal Corps
Silman Mfg. Co., Inc., Pittsburgh, Pa., (for
mfr. at Arthurdale, W. Va.), amplifiers,
loudspeakers, microphones, shoulder harnesses, tripods, etc., \$99,739.
Quartermaster Corps
\$\delta J. L. Sitel and Sons, Inc., Wheeling, West
Virginia, 3,000,000 yds. cloth, cotton, herringbone twill, \$1,073,700.
Casey Jones, Inc., Baltimore, Md., (Mill:

ringione twill, \$1,073,700.

Casey Jones, Inc., Baltimore, Md., (Mill:
Huntington, W. Va.), 100,000 jackets, herringbone, twill, \$75,000.

Dunn Woolen Co., Martinsburg, West Virginia, 225,000 yds. suiting, wool, O.D.,
\$550,541.

#### **New Book About Charleston**

In "Mellowed By Time," Elizabeth O'Neill Verner has again brought to us the beauty and charm of Charleston.

The pencil drawings that illustrate the book are gems of exquisite feeling.

The author rightly says: "Whatever else Charleston may be, she is different from any other city in America. \* \* \* \* Although the could recome library of historical data could never explain the charm of Charleston nor the passionate allegiance of her children."—Bosdick & Thornley, Inc., Co-

lumbia, S. C .- \$3.00.

MANUFACTURERS RECORD FOR

#### Resolution of Mobile Chamber of Commerce Regarding Strikes in Defense Industries

Be it resolved by the Board of Directors of the Mobile Chamber of Commerce that it regards the present coal miners' strike and the threatened strike of railroad employees as unpatriotic acts, greatly endangering our public defense. The refusal of labor leaders to accept the considered judgment of Boards created to settle such differences in open defiance of President Roosevelt's plea that their recomendations be accepted will result in crippling our defense efforts to such an extent as to encourage our enemies to believe that we are a divided nation.

Be it further resolved that it is the sense of this organization that the President of the United States should use every power at his command to force compliance with the orders and recommendations of the said Boards and that Congress of the United States should immediately take such action as in its judgment is necessary to prevent such open defiance of the orders of such Boards

Resolution unanimously adopted by the Board of Directors of the Mobile Chamber of Commerce, Tuesday morning, November 18, 1941.

#### Southern Shipyard to Build Concrete Barges

Award of three contracts for the construction of a total of 15 concrete bulk cargo barges has been announced by the Maritime Commission. The total amount involved for construction of the barges and the required building facilities is approximately \$9,000,000.

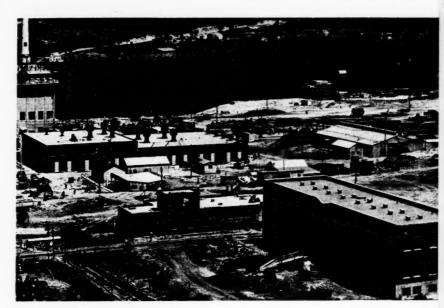
The companies to be awarded contracts for the construction of five barges each are the Port Newark Shipbuilding Corporation, Newark, New Jersey; San Jacinto Shipbuilders, Inc., Houston, Texas, and Allied Engineering and Shipbuilding Corp. and Tavares Construction Company, joint venturers, of Los Angeles, California.

General specifications for the barges are approximately 350 feet in length and 54 feet beam. They are to be equipped for operation with crews, although they will not be self-propelled. Delivery of all barges is to be made in

#### Iron and Steel Scrap Reporting Requirements

A merger of iron and steel scrap reporting requirements was announced jointly by the United States Bureau of Mines, the Office of Production Management and the Office of Price Administration.

Forms PD-149, 150 and 151 were issued to cover the entire field of iron and steel scrap reporting. All three forms are returnable to the Bureau of Mines, at Pittsburgh, Pennsylvania, and not to either the OPM or OPA.



Construction work on the gigantic Morgantown Ordnance Works at Morgantown, West Virginia, is almost completed. Above is a general view showing some of the shops and stores, the service building and main office. At right is one of the several coke ovens.

Questionnaires sent out during November are designed to cover the October operations of scrap producers, dealers, brokers and consumers. Further monthly report forms will originate in the Bureau of Mines.

Purposes of these reports are twofold:

 To develop a general policy for the distribution of scrap under General Preference Order M-24.

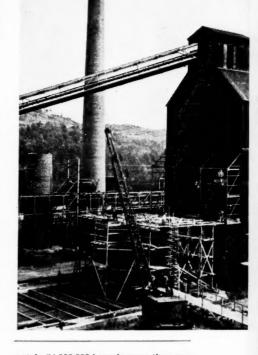
(2) To assist in price control of scrap.

The current serious shortage of scrap and the urgencies of the defense program dictate that the forms be given prompt and serious consideration.

All forms may be reproduced. They are returnable to the Bureau of Mines at Pittsburgh and all inquiries concerning them should be addressed to that office.

## Mineral Production in the South

Bituminous coal, of which the South produces almost half the Nation's output, rose from 189,126,000 tons in 1939 to 222,879,000 tons in 1940. Included in the latter amount are 14,950,000 tons for Virginia, the highest amount ever produced in this state in one year. Iron ore production, in which Mississippi joined for the first time, amounted to almost 7,500,000 tons in 1940 against only just over 6,000,000 tons in 1939. Sulphur production increased from 2,-088,385 tons in 1939 to 2,725,769 tons in 1940. Petroleum production in the South again showed an upturn, the total being 791.978.000 barrels or approxi-

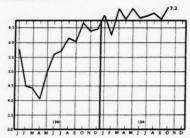


mately 24,000,000 barrels more than was produced in 1939. Participating in this increase were the newly-opened fields of Mississippi where 4,380,000 barrels were produced against only 107,000 in 1939. Because of the defense program bauxite has come into great prominence and the country's entire production, originating in the South, was 434,988 tons in 1940 compared with 375,301 tons in 1939. These are all healthy improvements that augur well for the South and can be found duplicated in virtually every other mineral produced in the southern states.

-From Blue Book of Southern Progress, 1941.

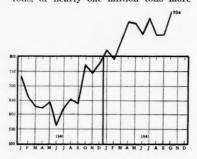
## Industrial Production **Trends**

NDUSTRIAL production, on the 1935-1939=100 adjusted index, rose to 164 in October from the revised figure of 161 in September. This is the highest point yet reached in American industrial history and contrasts strongly with the figure of 130 for the corresponding month of 1940.



#### STEEL INGOT PRODUCTION (Millions short tons)

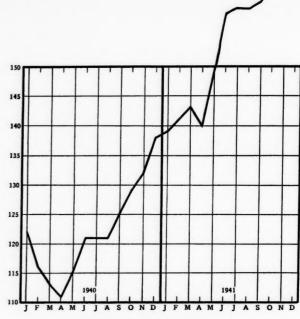
Steel production in October reached the highest point yet recorded with 7,-242,683 tons. It is a significant fact that this is more than 100,000 tons above the March figure which was the previous high. At that time the rate of capacity was 99.7% whereas in October the rate of capacity was only 99%. The October production brings the total for the first ten months of the year to 68,793,571 tons, or nearly one million tons more



COTTON CONSUMPTION (Thousands of bales)

than the entire production for all of

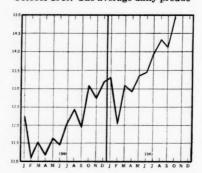
Cotton consumption also reached a new high in October when 953,600 bales were consumed or approximately 180,000 bales more than in the corresponding month of 1940. A similar condition of accelerated activity was also recorded in the number of active cotton spindles which amounted to 23,043,310. This is



INDUSTRIAL PRODUCTION (Index 1935-39=100)

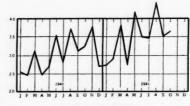
the greatest number recorded at any

the greatest number recorded at any time for many years.
Production of electric power during October totaled 14,991,953,000 kw. hrs., an increase of more than \$50,000,000 kw. hrs. over the September total, and is an increase of 17% compared with October 1940. The average daily produc-



ELECTRIC POWER PRODUCTION (Billions kilowatt hours)

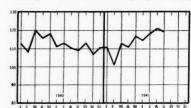
tion for the third consecutive reached an all-time high of 515,187,000 kw. hrs., an increase of 1.4% over the previous high in September 1941. This is in spite of the fact that necessity



CARLOADINGS

caused a reduction in power consumption in the Southeast.

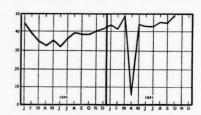
As anticipated, carloadings increased during October to total 3,658,000 cars,



CRUDE PETROLEUM PRODUCTION (Millions of barrels)

compared with 3,539,000 in September and 3,269,000 in October 1940. Prelimi-nary reports for November indicate that the total for that month will far exceed four million cars.

Crude oil production continued to set new records in September with a total of 119,446,000 barrels, compared with



BITUMINOUS COAL PRODUCTION (Millions of tons)

109,337,000 barrels in September 1940. The total production in September was less than two million barrels below the previous month but the important point was the new high of 3,981,500 barrels

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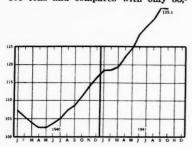
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daily average production. This was about 67,000 barrels above the August average and 337,000 barrels above the average of a year ago. The gain in Sepaverage of a year ago. The gain in sep-tember production out-weighed an in-crease in crude runs to stills. Exports declined and the net result was a smaller withdraw from inventories in September than in August.

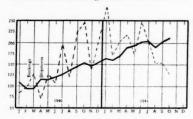
Bituminous coal production in October jumped to 49,800,000 tons from the revised figure for September of 46,880,000 tons and compares with only 38,-



FACTORY EMPLOYMENT (Adjusted index, 1923-25=100)

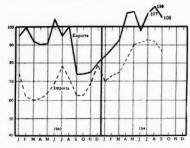
700,000 tons produced in October 1940. Preliminary estimates for November indicate a slight decline in that month, though the total will be well above 40,-000,000 tons.

Factory employment in October, as recorded on the 1923-1925—100 adjusted index, was 135.1, a decline of 0.5 points from the September total of 135.6. A contributing factor in this decline was the effect upon normal manufacturing of materials shortages and will be offset

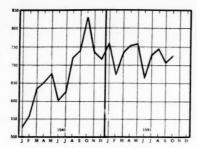


STRUCTURAL STEEL (Thousands of tons)

as new plants and expansions go into production and require more men. On the other hand, employment increases continued in durable goods industries, highlighted by further expansions in shipbuilding and aircraft. Total civil non-agricultural employment amounted to 40,749,000, an increase of about 34,000 over September, and is the highest on record, exceeding the 1929 peak by more than three million.

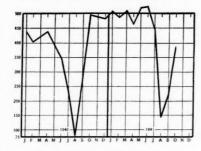


IMPORTS AND EXPORTS (Adjusted index 1923-25=100)



### SOUTHERN PINE PRODUCTION (Million board feet)

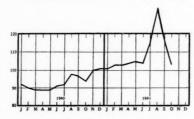
Shipments of fabricated structural steel during October were the largest for any month this year with 210,639 tons, bringing the total for the ten months of this year to 1,885,271 tons or more than 650,000 tons above the same period last year. The October shipments were also the largest of any month since October 30. On the other hand, contracts closed in the amount of 126,488 tons with the lowest for any month of this year and



AUTOMOBILE FACTORY SALES (Thousands)

were approximately half the corresponding total of October 1940.

Exports, with a value recorded in the 1923-1925=100 adjusted index, dropped to 105 in September from the previous high of 130 in August. Imports also declined but to a smaller extent, the respective figures being 86 and 91 for September and August. There is little doubt that this is only a temporary de-



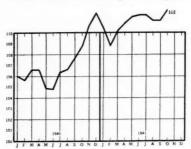
DEPARTMENT STORE SALES (Adjusted index 1923-25=100)

cline that will be offset with the October

Southern pine production failed to rally in September as anticipated and the total was 708,000,000 board feet, or 40,000,000 board feet below the August total. However, the October figure would appear to be higher with approximately 725,000,000 board feet produced. Factory sales of automobiles in October numbered 382,000, a rise of almost 50,000 over the September total. While

this is far below the seasonal level, it was higher than anticipated and only curtailed production in the interest of National Defense prevented the total from reaching a record high.

Decreased production of consumer goods already is having a marked effect upon retail trade, as may be seen from the 1923-1925=100 adjusted index of department store sales, which recorded 104 for October against 116 and 134 in September and August respectively. With the approach of Christmas, however, the volume is anticipated to again



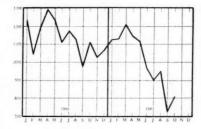
U. S. TREASURY BONDS (Average price per \$100 bond)

reach new heights and is likely to drop

rapidly thereafter.

The average price of U. S. Treasury bonds in October reached 112 or 0.9 points above the September total. The November average is likely to be well maintained but the customary high for December is likely to suffer a decline

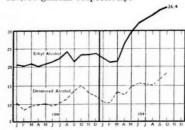
Commercial failures, which reached a



COMMERCIAL FAILURES (Total number)

low of 735 in September, rose slightly in October to 809, though total liabilities declined from \$9,393,000 to \$7,333,000 in October.

Chemical production, so necessary in the present emergency, continues to soar and is reflected by production of ethyl and denatured alcohol, which in October amounted to 36,393,000 and 18,-185,000 gallons respectively.



ALCOHOL PRODUCTION (Millions of gallons)



# SOUTHERN TOBACCO PLANT ADOPTS MECHANICAL TRANPORT

Originally the boxes of cut tobacco were placed on dollies and pushed by hand. Now the truck handles six dollies containing five boxes each from one building through a tunnel into another building across the street. Electric eyes open and close tunnel doors as truck approaches and departs.

THE Brown & Williamson Tobacco Corporation is a nationally known manufacturer of cigarettes and tobacco, with headquarters at Louisville, Kentucky.

At the Petersburg, Virginia, factory, this corporation manufactures Raleigh and Avalon cigarettes and Bugler tobacco. At Petersburg, as well as in their other plants, every effort is made towards increasing efficiency and reducing cost of operation.

This company operates at the Petersburg plant a non-telescoping fork truck with tilting upright. It is a 16-hour operation and two 15-cell 19-plate Exide batteries are used with a single circuit charger. The application is interesting and unusual

Connecting 2 Buildings By Tunnel Under Street and Railroad Track

At one point in the process, it is necessary to transport boxes of cut tobacco, each 24" x 24" x 16" deep, from one building to another on the opposite side of a street.

Due to the fact that a railroad

track traverses this street, a connecting tunnel with a rather steep grade at each end had been constructed between the buildings.

Originally, the boxes were piled on dollies and pushed by hand—a comparatively small load per trip, since the grades at both ends of the tunnel are rather steep.

A study was made with the view to replacing hand labor by a truck, thus decreasing the cost of handling and increasing the volume of material per hour.

### 5 Boxes per Dolly— 6 Dollies per Truck Load

In planning the truck installation, it was decided to pick up six dollies per load, three across and two in tandem. This necessitated three forks and a broad wire screen frame, as shown in the illustrations.

Five boxes are stacked per dolly, the total number per load, therefore, being 30, and the total weight approximately 900 pounds. Inasmuch as no piling was necessary and no lift except for floor clearance, it was decided to fit this truck with tilt only, which has proved successful in practice.

4 to 5 Times More Boxes
Per Trip—More Frequent Trips

In order to handle as many boxes high as possible, it was necessary

to study the profile of this tunnel, particularly the grades. This was carefully worked out with the result that the Elwell-Parker is now carrying four to five times as many boxes per trip as were transported by the old hand-pushing method. Added to the higher speed of travel, the new method has resulted in considerable saving.

Another interesting feature of this installation is the use of electric eyes which automatically open and close doors at both ends of the tunnel. One of these may be seen in the picture.

Tobacco has become one of the largest and most prominent of American industries, producing more than one-and a-quarter billion dollars' worth of finished products per year.

(Continued on page 42)

Trucks reduce

operation costs

and increase

efficiency

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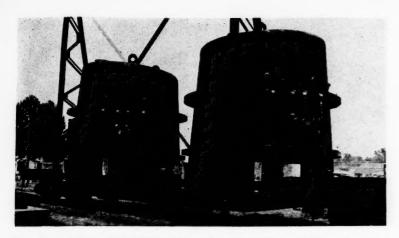
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Two of six 140-ton welded ladles fabricated at Birmingham, Alabama, by Chicago Bridge and Iron Company for the Tennessee Coal, Iron and Railroad Company. Measurements of these new ladles are 10 ft. 5 in. in diameter at the bottom, 11 ft. 3¾ in. diameter at the top and 11 ft. 3½ in. deep.

### Southern Shipyard Gets \$4,-000,000 Order for Tugs

Contracts for nine seagoing tugboats to cost slightly in excess of \$1,000,000 each have been made with two shippyards, it was announced by the Maritime Commission. The Globe Shipbuilding Company, Superior, Wisconsin, will build five and the Avondale Marine Ways, Inc., New Orleans, Louisiana, four.

This makes a total of 13 of this type vessel thus far ordered by the Commission. Deliveries are to be made between July and November 1942.

These tugs, known as design V4-M-A1. are the largest commercial vessels of their type, having an overall length of 194 feet, nine inches, with a molded breadth of 37 feet, six inches and a designed draft of 15 feet, six inches geared Diesel-propelled with 2,250 horsepower.

### New Contract Distribution Offices Open in South

Opening of two additional field offices to help qualified manufacturers obtain defense work was announced by the Contract Distribution Division of OPM, bringing to 70 the total number of such offices now operated by the Division.

The new offices and their addresses

Miami, Florida—514 Congress Bldg. Shreveport, Louisiana—916 Giddens Lane Bldg., Milan and Marshall Sts.

Manufacturers in and around these cities are invited to take or send to the new Contract Distribution Division offices information as to the equipment of their plants and the types of products they now make or have made in the past. Owners of factories qualified to do defense work will be given engineering assistance and directed to the government procurement offices or to defense contractors who have defense work that they might do.

### Wood Pulp Prices to Remain Unchanged

There will be no change in domestic wood pulp prices through the first quarter of 1942 as a result of extension of individual agreements between pulp producers and the Office of Price Administration.

These individual agreements, concluded late in October after several producers had agreed to withdraw fourth quarter price increases previously announced, continued in effect for the remainder of 1941 the prices that generally had prevailed since June, 1940. Extension of these prices for the first three

months of 1942 contributes importantly to stable prices for paper.

Leading grades of pulp covered by the voluntary agreements and the maximum first quarter domestic prices are: Bleached sulphite, bond and book, \$72.50 a ton, on dock Atlantic seaboard; soda pulp, \$66.00 a ton, delivered; bleached Southern and bleached Northern Kraft, \$82.50 a ton, on dock Atlantic seaboard; and ground wood, \$40.00 a ton delivered.

These are representative of contract prices charged during the fourth quarter. In the case of unbleached Northern and Southern Kraft, each producer has agreed not to exceed the fourth quarter contract prices. In respect to all other grades of pulp, the differentials in effect during the fourth quarter will be retained throughout the first quarter of 1942.

### New Railroad Equipment Installed

Class I railroads installed 64,680 new freight cars in service in the first 10 months of 1941, the Association of American Railroads announced recently. New freight cars put in service in the same period last year totaled 54,791. Of the total number of new freight cars installed in the 10 months period this year, there were 34,128 box, 26,412 coal, 1,583 flat, 1,853 refrigerator, 123 stock and 581 miscellaneous cars.

New locomotives installed in service in the first 10 months of 1941 totaled 493, of which 117 were steam and 376 electric and Diesel. Installed in the first 10 months of last year were 320 new locomotives, of which 84 were steam and 236 electric and Diesel.

New freight cars on order on November 1 number 80,504, compared with 27,459 on the same day last year.

Sept.

### **COMMODITY PRICES**

Commodity	1941	1941	1940
Coal, run of mine bituminous per short ton	4.688	4.677	4.403
Cotton, middling (N. Y.) per pound	.171	.177	.096
Cotton, middling (New Orleans) per pound	.1628	.1695	
Cottonseed oil (N. Y.) refined, prime summer yellow			
per pound	.129	.136	.054
Corn, No. 3 white (Chicago) per bushel	.75	.81	.69
Wheat, No. 2 Red winter (St. Louis) per bushel	1.13	1.16	.90
Pig iron, composite per long ton	24.15	24.15	23.15
Steel, composite finished per pound	.0265	.0265	.0265
Steel, scrap (Chicago) per long ton	18.75	18.75	19.75
Livestock, beef steers (Chicago) per 100 lb	11.55	11.73	11.87
hogs, heavy (Chicago) per 100 lb	10.71	11.42	6.41
sheep, lambs (Chicago) per 100 lb	10.63	10.98	8.88
Southern pine flooring per M bd. ft	50.788	51,704	48.676
Aluminum scrap, castings (N. Y.) per lb	.0936	.1100	.0894
Copper, electrolytic (N. Y.) per lb	.1178	.1178	.1183
Lead, refined pig, desilvered (N. Y.) per lb	.0585	.0585	.0531
Tin, Straits (N. Y.)	.5200	.5200	.5150
Zinc, prime western (St. Louis) per lb	.0794	.0725	.0725
Brass sheets, mill	.195	.195	.192
Petroleum, crude (KanOkla.) at wells per bbl	1.110	1.110	.960
Gasoline, refining (Okla.) per gallon	.060	.060	.045
Rayon, viscose, 150 den. first quality mm. filament per lb.	.550	.542	.530
Rubber, crude, smoked sheets (N. Y.) per lb	.232	.226	.203
Sugar, raw 96° centrif. (N. Y.) per lb	.035	.036	.028
Wool, territory, fine scoured per lb	1.08	1.06	1.05
Woodpulp, unbl. sulphite per 100 lb.	3.71	3.71	3.46

# **PRIORITIES**

Furnace Makers Given A-1-c for Materials — Manufacturers of furnaces used in the heat treatment of metals are granted the assistance of an A-1-c rating in acquiring the necessary materials in preference rating order P-74.

The rating may be applied to purchase orders for the following component parts

and materials:

Motors and other electrical accessories; mechanical parts and accessories; alloy and carbon steels in bars, forgings, castings, plates, sheets, shapes and tubes; ferrous and non-ferrous castings and forgings; abrasives; indicating instruments and accessories; refractories and insulation; controlled atmos-phere generators and accessories; burn-ers and their accessories; paints and finishing materials; maintenance and shop supplies.

Foundry supplies consisting of: steel rail and other steel scrap; silvery pig iron; regular pig iron; coke; ferro-sili-con; ferro-manganese; vanadium; nick-

el, molybdenum, chromium.

Additional Control over Methanol—Additional control over methyl alcohol (Methanol) has been imposed with a view to increasing its flow into the manufacture of plastics.

In an amendment to General Preference Order M-31 these steps were taken:

1. Ratings of B-4 were assigned to deliveries of natural origin methyl alcohol to be used as a denaturant for ethyl alcohol.

The same rating was assigned for deliveries of synthetic methyl for gen-eral chemical manufacture, including formaldehyde for non-defense uses spec-

ified in General Preference Order, M-25, 3. Acceptance of these orders, subject to general priority regulations, is re-

quired.

4. Preference rating B-8 is assigned to deliveries of methyl alcohol for use as an anti-freeze and as a general dena-

an anti-freeze and as a general dena-turant and solvent.

These steps have the effect of prevent-ing the delivery of methyl alcohol for anti-freeze and other purposes until and unless the higher-rated needs have been taken care of.

5. Deliveries of methyl which will increase inventory beyond a 30-day supply at current rate of use is forbidden.

General Priorities Regulation No. 1 is made applicable to all transactions in methyl alcohol.

Machine Tools for Russia to be **Speeded-Up**—Special Allocation Order No. 1 has been served on approximately thirty-five machine tool manufacturers in this country directing that manufacturers receiving it accept specified pur-chase orders placed by the Amtorg Trading Corporation, on behalf of the Russian Government, provided that Amtorg meets regularly established prices and terms of sale. Manufacturers are fur-ther required to make deliveries on these orders on the dates specified.

It is estimated that purchases under this order will represent between \$10,-000,000 and \$15,000,000 worth of tools.

The importance of the order is indi-cated by a provision that no preference rating, urgency standing, or other order issued by the Priorities Division, is to interfere with delivery of the machine

tools ear-marked for Russia, unless it shall so specify.

Machine Tool Rebuilders Granted A-1-c Rating—Rebuilders of machine tools have been granted the assistance of a preference rating of A-1-c in acquiring necessary scarce materials.

Rebuilders are defined as those who rework or replace worn or missing parts, test the repaired tool under power, and guarantee its performance for a period of not less than thirty days.

The materials to the acquisition of which the preference rating may be assigned are: motors and other electrical accessories; iron, steel, brass and bronze castings; alloy and carbon steels in bars. forgings, castings, shapes and tubes; cutting tools, including cemented carbides; abrasives; measuring instru-ments and gages; brass, copper and steel tubing and fittings; oil resisting hose; bearing metals; anti-friction bear-

ings; machine parts and accessories. Rebuilders may make deliveries of rebuilt machine tools only to fill defense orders, as defined in the order.

Phenols Placed Under Full Control A complete allocations system covering phenols is provided for in an amendment to General Preference Order M-27. Under the new order, the Director of Priorities, on and after December 1, will give specific directions each month as to shipments of phenols.

Regulations of Priorities Regulation No. 1 generally will apply, according to the amendment, and a special inven-tory report is required for all persons, except producers, who have more than a 30-day supply on hand, based on the year ending Setember 30, 1941. A pref-erence rating of A-10 is assigned to all defense orders not otherwise assigned.

Conveyor Machinery Makers Given A-3 Rating-Plans to facilitate production of materials for repairs to elevators and escalators and for construction of conveyor machinery are embodied in orders P-72 and P-78. They permit application of A-3 preference ratings to de-liveries of the necessary materials for production, with certain restrictions. Both will expire January 31, 1942. The orders are to be used by the producers of the items covered and their suppliers.

Cobalt Placed Under Full Control— General Preference Order M-39 places domestic and imported ore and concen trates, cobalt metal, and cobalt chemical compounds, under mandatory control and restricts deliveries and acceptances of cobalt for metallic uses to specific authorizations by the Director of Prior-

The order provides that monthly re quests for cobalt shall be filed on forms PD-152 and PD-153. Monthly allocations of cobalt for metallic purposes will be made by the Director of Priorities and may be made without regard to previous preference ratings.

Deliveries of cobalt chemical compounds for non-metallic uses by any processor or dealer are limited to 90 per cent of the average monthly weight de-livered by him for the first six months of 1941. A similar restriction is placed on the manufacture of those chemicals which are not convertible into cobalt metal. Termination date of the order is

Truck Production Order Extended— Extension until January 31, 1942, of orders L-1-a and P-54 which facilitate production of heavy motor trucks, medium trucks and truck trailers was announced

The extension of order L-1-a means that during the period from September 1, to January 31, producers may manufacture five-sixths the number of medium motor trucks, truck trailers and passenger carriers produced during the passenger carriers produced during the first half year, except that trucks ordered for specific defense purposes as defined in the original orders are not limited. Production of heavy motor trucks, which are carrying most of the national defense truck transportation burden is not restricted. burden, is not restricted.

Use of Cellophane Restrictedon many uses of cellophane and similar transparent materials derived from cellulose is provided by Limitation Order

Gift wrappings, soda straws, cosmeties, soaps, and hardware are a few of the items affected by a limitation order issued by Donald M. Nelson, Director of Priorities. The order was drafted by the Division of Civilian Supply.

The order, effective immediately, permits suppliers and their customers to use up existing stocks under certain conditions. Thereafter, these transpar-ent materials cannot be used to package or manufacture products in the follow-

ing categories:

Razor blades, cosmetics and soaps, textiles, rubber and rubber products, hardware, metals and sporting goods, paper and paper products, laundry, candles and wax products, electrical equipment and decorations and novelties, including molded paper hats, molded Christmas bells, molded flower pot covers, bows and rosettes, flowers, wreaths and garlands, soda straws, ribbons, household rolls, and gift wrappings. Users are given 60 days to exhaust stocks now on hand. Suppliers who have

already prepared stocks for customers in such a way that they could not be used by persons unaffected by the order are allowed the same time for disposal.

Further studies are being made with a view to extending the curtailment to the packaging or manufacturing of food and tobacco products.

December Zinc Pool Announced— Producers of metallic zinc are required to set aside 29 per cent of the amount they produced in August for the December pool. This is a reduction of 2 per cent from the November requirement and will result in a supply, available for allocation, of 21,700 short tons. Producers need not set aside any zinc oxide or zinc

Date of Titanium Pigment Order Changed—The effective date of General Preference Order M-44, relating to the distribution of titanium pigments, has been changed from December 1, 1941. to January 1, 1942. The change was made to provide more time for the preparation of forms to be used under the

South's Electric Power Blackout Eased—The OPM Power Branch staff has announced indefinite postponement of the pending 30 per cent power cur-(Continued on page 42)

# Everybody wants to use it at CHRISTMAS time!

THERE'S a Long Distance telephone bridge from your town to the rest of America. It was planned and built to carry the traffic of a busy business day — and low toll rates were worked out on that basis.

But once a year, on Christmas Eve and Christmas Day, many more people than the telephone bridge can possibly accommodate try to use it at the same time.

Naturally, there are tie-ups and delays. Some folks never get on the bridge at all. For that, we're sincerely sorry.

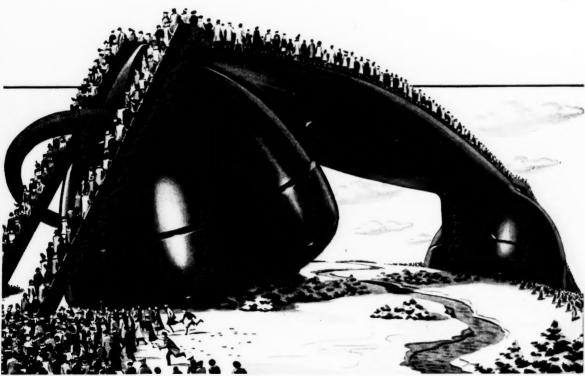
And it wouldn't be sensible to build great amounts of expensive facilities that would be used only one or two days in the 365.

What we shall do is to use every circuit we have and put on every operator that can be useful — and do the best we can.

Telephone people will be working all through the holiday to make it a happy Christmas. Will you, for your part, please be patient if there are delays in reaching your faraway friends and relatives? We'll appreciate it.

LONG DISTANCE helps unite the nation





DECEMBER NINETEEN FORTY-ONE

### **Priorities**

(Continued from page 40)

tailment of large commercial and industrial consumers in six southeastern states and definite assurance of relaxation, beginning December 15 at the latest, of the blackout restrictions now in effect.

The following provisions of the OPM; Power Limitation Order must however, be continued in full force and effect:

- 1. Freezing of consumption at September levels of large commercial and industrial consumers in Georgia, Alabama, Tennessee, eastern Mississippi, southeast South Carolina, and northwest Florida.
- 2. Power pooling arrangements for maximum deliveries of power into the shortage area.
- 3. Strict compliance with blackout restrictions until December 15.

Chromium and Chrome Steel Restrictions—Two orders sharply limiting the use of chromium and chrome steel are M-18-a, which affects all deliveries of chromium and an amendment to M-21-a prohibiting the manufacture and delivery of alloy iron or steel containing 4 per cent or more chromium except on A-10 or higher preference ratings.

Main provisions of the amendment to M-21-a are:

- 1. Except under a specific rating of A-10 or higher, or specific permission of the Director of Priorities, no producer shall process beyond ingot, bloom, billet, sheet, bar or slab, or after December 1, 1941, deliver, any alloy iron or alloy steel containing 4 per cent or more chromium.
- 2. The Director of Priorities may issue directions allowing or forbidding specific deliveries of chrome alloy steel.
- 3. The Director of Priorities may issue other specifications in regard to chrome steel, or on any other alloy of steel.

Main provisions of M-18-a are:

- 1. Full control of deliveries of chromium is lodged in the Director of Priorities and monthly requests for chromium must be made to producers.

  2. The aggregate chromium oxide con-
- 2. The aggregate chromium oxide content of chemicals is limited in each month to one-twelfth the amount of ore used in chemicals actually delivered in the twelve months ending June 30, 1941.
- 3. The order revokes Order M-18, issued July 7, 1941, and amended August 22. It becomes effective November 29, 1941.

Amendments Affecting Formaldehydes—Two new amendments to General Preference Order M-25, governing the supply and distribution of formaldehydes and the synthetic resins made from them, were announced recently.

Amendment No. 3 places bases for radio tubes under Classification 1 of the permitted uses, as no suitable substitute for plastics for this purpose has been discovered. This classification means that deliveries of the resins for the production of bases are assigned a rating of R-4.

Amendment No. 4 assigns a preference rating of B-8 to deliveries of synthetic resins molding powder to radio manufacturers in the amounts required to produce molded cabinets for their existing inventories of radio chassis. Radio manufacturers who produce their own synthetic resins molding powder may use it in the amounts required for the same purpose.

Use of Chlorine Further Restricted—A decreased use of chlorine in the manufacture of pulp, paper and paperboard, effective immediately, is provided for in General Limitation Order L-11.

The result will be less whiteness, or "brightness" in the idiom of the paper trade, in practically all grades of paper. The changes will be noticeable on close examination but will not be observable on casual inspection.

Practically all grades of paper are affected by the order, with the exception of newsprint, in which no chlorine is used. Brightness ceilings are provided, ranging from a cut of 4 points in 100 per cent rag content writing paper to total elimination of chlorine in groundwood, the grade commonly used in "pulp" magazines and books. Bleaching also is eliminated for most bags, sack and wrapping paper and for specialty papers, such as sand paper base.

A-5 Rating for Laboratory Material Makers—An order assigning a preference rating of A-5 to acquisition of the scarce materials required by manufacturers of the necessary laboratory chemicals and equiment is designed to further assist research laboratories.

Producers who supply laboratories engaged in research, testing, analysis, and in plant control studies, as well as clinical and academic laboratories, are covered by the order. The rating is applicable to material required for packaging the equipment for delivery, as well as to those elements entering into its manufacture.

A previous order, P-43, extended to certain accredited laboratories engaged in scientific research a preference rating of A-2, and is applicable to orders placed by them for essential materials. The new order, however, specifically aids producers of certain equipment which the laboratories require.

Iron and Steel Preference Orders Extended—General preference orders affecting pig iron, steel, steel warehouses, and special kinds of iron and steel have been extended to December 31, 1942. Most important of these orders is General Preference Order M-21, which puts steel under priority control.

steel under priority control.

General Preference Orders M-17, M-21-a and M-21-b, which are also extended, cover pig iron, alloy steels, and steel warehouses. The orders also apply to inventories of any of these materials. Another order extended is Preference Rating Order No. P-31, which assigns limited blanket ratings of A-1-b and A-1-c to orders for certain materials essential to the operations of manufacturers of foundry equipment and repair parts. This order was extended to May 30, 1942

Wooden Container Industry Given Preference Rating Order—In a move to facilitate the operations of the cooperage and wooden container industries, and also to lend assistance to the production of paperboard containers, the Priorities Division has issued Preference Rating Order P-79, extending to manufacturers in these fields priority assistance in obtaining the necessary hardware, including wire and nails, saws knives and other tools

saws, knives, and other tools.

Makers of all types of wooden barrels and kegs, and containers made from sawed lumber, veneer or plywood, and

of paperboard containers, are included within the terms of the new order, which becomes effective today. It is believed that this assistance will greatly stimulate the substitution of these forms of packages for metal containers, and effect a considerable saving in the amounts of critical materials currently consumed in packaging.

A rating of A-5 is assigned to the deliveries of ferrous material, defined in the order as "any products made principally from iron or steel," except wire, to delivery of which an A-8 rating is applicable.

The producer, or supplier, making use of the order must endorse the following statement, "Purchase order for ferrous material, preference rating — pursuant to Preference Rating Order No. P-79," on the original and all copies of each purchase order.

The producer is restricted in the application of the rating to those quantities and kinds of ferrous material specifically authorized for rating by the Director of Priorities on PD-82, and for the purposes authorized by the order.

Steel Drum Makers Given Preference Rating—Two orders, effective immediately, are designed to make possible the speedy manufacture of steel drums for overseas shipment of gasoline, oil, and other petroleum products.

and other petroleum products.

Under General Preference Order M-45, manufacturers of steel drums will be required to set aside a specified inventory of the 16 and 18 gauge hot-rolled sheet steel from which the drums are made. This inventory is to be used only upon specific order of the Director of Priorities. The companion order, making up the other half of the program, is Preference Rating Order P-76. It extends a rating of A-4 to deliveries of the sheet steel to drum manufacturers for the purpose of replenishing the original inventory. Any sheet steel acquired with its assistance must be held under the same conditions as the originally designated inventory.

A manufacturer is not required to set aside more than the original reserve inventory, and he is not required to replace it. If he wishes to do so, however, he can use the preference rating extended by Preference Rating Order P-76 to acquire the necessary stock.

December Refined Lead Pool—Every refiner of lead will be required to set aside 15 per cent of his December production for allocation by the Director of Priorities. The percentage to be set aside in December is the same as that announced for November, and is expected to amount to from 6,000 to 6,500 tons. Metal not allocated out of the pool for defense uses during the month will be added to the Government stockpile of lead.

### Southern Tobacco Plant Adopts Mechanical Transport

(Continued from page 38)

The importance of labor saving equipment is emphasized by the progressive spirit and resulting benefits realized by the Brown & Williamson Tobacco Corporation and other users of power industrial trucks in that industry.

## If Your Business Is Expanding

Is the defense program increasing your business? Do you need a location for a new plant? Are you adding to your present factory, or its equipment?

First and Merchants knows conditions in the South and stands ready to help

you meet your present-day manufacturing problems. With broad contacts, ample capital and surplus, a background of 76 years' teamwork with business—this outstanding commercial bank invites your inquiry on any phase of Southern industry.

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CROSS SECTION

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sizes of sheets and rolls. Available in drawing paper and tracing cloth, also. Write for complete sample

book of Elliott's papers and cloths.

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PITTSBURGH, PA.

### **Cost of Defense Industrial Projects** Exceeds \$5,260,463,000

Two hundred and forty-eight projects for defense industrial plant expansions were approved by Government agencies during September. The estimated cost totals \$535,000,000. Of this amount, \$483,000,000 were public funds committed for 53 projects—52 United States Government financed and one financed by a foreign government. Private financing, as measured by certificates of necessity approved, covered 195 projects amounting to approximately \$52,000,-

This brings to 3,004 the total number of defense industrial projects approved

from June 1940 to the end of September 1941. Their total estimated cost is \$5,-260,463,000. Commitments of public funds on 628 projects - 568 United States Government commitments, and 60 foreign government commitmentsamounted to \$4,266,707,000, or 81 per cent of the total estimated cost. The estimated cost of 2,376 privately financed projects is \$993,756,000.

The following tables present a breakdown of these figures by type of product for which the plants are being built, by source of funds and by states.

### DEFENSE INDUSTRIAL FACILITIES Value of Industrial Facilities Financed with Public and Private Funds By Type of Product and Source of Funds Through September 30, 1941

				of Funds	
				P	rivate2
Numb	er nt Estimated				
12Apans					ins cost
3.004					\$993,756
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. 132	727,568	37	658,448	95	69,120
	36.716	2	14.334	22	22,382
. 441		60	371.637	384	178,811
s.	,				
	851,708	101	810,297	190	41,411
	314,186	71	288,131	92	26,055
	978,761	152	879,515	182	99,246
	715.699	71	691,652	81	24,047
. 71	52,536	13	30,671	58	21,865
	,				
. 134	461.490	31	302,672	103	158,818
	,		,		
	251.440	80	126,582	552	124,858
	49.324	25	29,731	116	19,593
	,		***		
228	107,798	25	62,637	203	45,161
299	162,789	1	400	298	162,389
	Numb of Pla Expans . 3,004 . 132 ! . 24 . 444 s, . 291 . 163 . 334 . 152 . 71 . 134 i . 632 . 141	Expansions Cost II (T . 3,004 \$5,260,463 . 132 727,568 l. 24 36,716 . 444 550,448 s 291 \$51,708 . 163 314,186 . 334 978,761 . 152 715,699 . 71 52,536 . 134 461,490 l. 632 251,440 . 141 49,324 . 228 107,798	Number Number of Plant Estimated of Plant Expansions Cost Expansions (Thousau . 3,004 \$5,260,463 628 . 132 727,568 37 1 24 36,716 2 . 444 550,448 60 8 . 291 \$51,708 101 . 163 314,186 71 . 334 978,761 152 . 152 715,699 71 . 71 52,536 13 . 134 461,490 31 . 134 461,490 31 . 134 49,324 25 . 228 107,798 25	Number   Stimated of Plant Estimated   Symbol   Stypensions   Cost   Expansions   Cost   Expansions   Cost   Expansions   Cost   Expansions   Cost   CThousands of Dolla   . 3,004   \$5,260,463   628   \$4,266,707   . 132   727,568   37   658,448   . 24   36,716   2   14,334   . 444   550,448   60   371,637   8, . 291   \$51,708   101   \$810,297   . 163   314,186   71   288,131   . 334   978,761   152   879,515   . 152   715,699   71   691,652   . 152   715,699   71   691,652   . 134   461,490   31   302,672   . 134   461,490   31   302,672   . 141   49,324   25   29,731   . 228   107,798   25   62,637   . 126,582   . 141   49,324   25   29,731   . 228   107,798   25   62,637   . 126,582   . 126	Number of Plant Estimated of Plant Expansions   Cost   C

<sup>2</sup>Includes facilities estimated to cost more than \$25,000 which are direct obligations of the War and Navy Departments (including financing through Government Supply and Emergency Plant Facility Contracts), Maritime Commission, Defense Plant Corporation, British Government, and ioans of the Reconstruction Finance Corporation.

<sup>2</sup>As reflected by Certificates of Necessity approved. Excludes pilot and mechanic training. Note: Number of plants by product groups do not add to totals because of duplication of facilities between product groups.

### DEFENSE INDUSTRIAL FACILITIES IN SOUTHERN STATES Through September 30, 1941 (Thousands of Dollars)

( I nousa	inds of Donatis,		
State	Total Estimated Cost	Public Estimated Cost	Private Estimated Cost
Alabama	\$230,571	\$196,254	\$34,317
Arkansas	64,864	64,184	678
District of Columbia	9.848	9,848	
Florida	8,016	2,337	5,679
Georgia	7,571	4,693	2,878
Kentucky	44,521	28,790	15,731
Louisiana	72,975	62,811	10,164
Maryland	99,500	80,435	19,065
Mississippi	18,956	18,170	786
Missouri	203,506	198,376	5,130
North Carolina	25,395	8,132	17,263
Oklahoma	82,414	81,215	1,199
South Carolina	26,617	18,797	7,828
Tennessee	166,276	102,890	63,386
Texas	224,256	191,775	32,481
Virginia	146,133	132,561	13,572
West Virginia	111,797	84,153	27,644
South	\$1,543,216	\$1,285,421	\$257,801
United States	\$5,260,463	\$4,266,707	\$993,756

### Railroads Adopt Standard Plans As Defense Measure

As a measure of conserving metals needed in the interest of national defense, construction of new locomotives and freight cars will be limited to certain designs now in use. This will facili-tate the allocation of steel and other materials to be used for such construction and repair purposes. Other points of the plan to which the railroads are committed with the Office of Production Management include: substitution of other materials so far as possible for scarce metals in locomotive and freight car construction; use of carbon steel rather than alloy steel in locomotive boiler construction; use of steel plates and steel sheets 48 inches wide in the construction of new freight cars instead of sizes now largely used ranging up to 119 inches in width,

Under the arrangement, car and locomotive builders will interchange plans, engineering data and patterns which will expedite the building of railroad equipment and increase the capacity of facilities used for that purpose.

### Southern Agriculture

The 1940 Blue Book called attention to the outstanding fact that the South's cash farm income, derived from livestock and livestock products, had passed the billion dollar mark to total \$1,004,-786,000, but the record is again passed this year with the 1940 total amounting to \$1,027,397,000. This livestock development has proved a major factor in supplanting cotton and tobacco as principal sources of southern cash farm income. Actually, in 1940, cotton and tobacco, together, comprised only about half the income derived from all farm crops.

Another important development in the South is in the number of farms operated by tenants, for in the space of five years—that is, comparing 1940 with 1935-the number of tenant-occupied farms in the South declined 400,000 from 1.935.888 to 1.537.507. This is especially noteworthy in view of the fact that the number of tenant-occupied farms in the rest of the country during the same period declined only 100,000.

Still another indication of the South's agricultural improvement is seen in the rise of farm land and buildings value. Between 1935 and 1940 farm land generally showed an inclination to decrease in value, yet the value of farm land and buildings in the South during this period increased approximately one billion dollars despite a 435,785 reduction in the number of farms and a corresponding decline of six million acres in farm land. Altogether, as one studies the statistics of southern agriculture the fact is inescapable that the situation is brighter for the future than at any time in recent years. Crops are more diversified, livestock has increased, yields have increased, and production generally is being tuned to the demands of edible and industrial consumption.

> -From Blue Book of Southern Progress, 1941.

MANUFACTURERS RECORD FOR

DEC

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# **Dredging—Construction—Engineering**Distributors of Sand-Gravel-Stone and Commercial Slag

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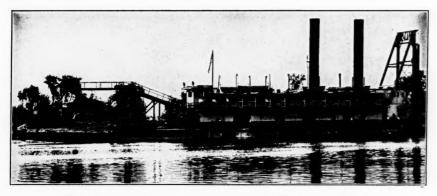
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FILLING, LAND RECLAMATION, CANALS, PORT WORKS RIVER AND HARBOR IMPROVEMENTS-DEEP WATERWAYS AND SHIP CHANNELS



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Correspondence invited from corporate and private interests everywhere.

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# and Equipment

### **New 3000-Watt Mercury Lamp**

The largest and most powerful mercury lamp in the world, was announced at Nela Park, Cleveland, laboratories by General Electric's Lamp Department. Designated as the 3000-watt G-E Mazda "AH-9" Mer-cury Lamp and rated at 120,000 lumens, this long tubular light source is eight times more powerful than the present largest lamp of its kind. Yet its 55-inch length is only four times that of its nearest rival, a 400-watt mercury lamp, rated at 16,000 lumens, chief source of illumination in many factories today. It measures a speck more than one inch in diameter. This new tool on the industrial lighting front and suitable fixtures designed for its most effective use will probably be made available soon after January 1.

Trial installations are claimed to have proved that these streamlined AH-9 mer-cury tubes—in good reflectors and on conventional spacing centers—can provide more than 50 footcandles of light evenly over the working plane. Latest available statistics show the average factory lighting level to be less than 10 footcandles.

### "High Vision" Fluorescent Luminare

A new 40-watt fluorescent luminaire is announced by the Westinghouse Electric and Manufacturing Company, where extended light lines are desirable. Known as type FBS 40, the luminaire uses 2 or 2 type FPS-40, the luminaire uses 2 or 3 40-watt fluorescent lamps per reflector and will provide lighting intensities of from 30 to 100 footcandles with maximum dif-fusion, minimum glare and uniform disrusion, minimum giare and uniform dis-tribution at ordinary spacing and mount-ing heights. It provides adequate visi-bility for close work such as reading pre-cision micrometers, veniers, and other shop instruments. Design of luminaire makes it possible to construct any length of strip desired from four simple and compact types. Channels provide a continuous wireway which may be mounted on conduit, messenger cable, twin-rod suson conduit, messenger cane, twil-rod use pension or directly on the ceiling. All auxiliary equipment is mounted in the channel. The units have twin-ballasts with built-in compensators providing power factor of 90 per cent or over.

### **New Double Duty Steel** Letters and Figures

Steels as hard as Brinell 380 Rockwell "C" Scale 40 are now claimed to be successfully stamped by use of Double Duty Steel Letters and Figures recently developed by the Acromark Corporation, 239-267 North Broad Street, Elizabeth, New Jersey. Each steel letter and figure is individually engraved and hand finished for accuracy. Hardened, tempered and individually tested by nationally known experts in heat treating these stamps are said to cold stamp steels that were formerly stamped hot, thereby eliminating the slow operation of heating each part to white heat and suffering possible loss from heat cracks and decarburiza-

### Portable Chain Saw Unit

A portable, gasoline driven chain saw unit manufactured by the MALL TOOL COMPANY, 7740 South Chicago Avenue, Chicago, Illinois, is designed to cut a tree or pile and leave three or fewer inches of It can be swiveled to cut in any direction. It quickly cuts through timbers or logs. Each saw is equipped with a chain saw sharpening device which can be used at the job site. The saws are available in 24", 36" and 48" lengths and in models powered by compressed air, electricity or gasoline. The air driven unit may be used under water.

### **New Acro Die Cradle**

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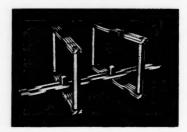
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pany, DEC

The Acro Die Cradle, a handy tool for diemakers, has been announced by the Acro Tool and Die Works, 2806 Montrose Avenue, Chicago, Ill. In effect, the tool is a universal parallel unit, adjustable in length to accommodate varying sizes dies, jigs and metal parts, with parallel



The Acro Die Cradle

vertical supports and parallel top crosspieces holding the work in a level position. Two thumb-screws adjust the Acro Die Cradle to any desired length, Standard height of parallels is 7 inches, with an adjustment for length up to 20 inches. The unit is made of high grade steel, hardened and ground to close tolerances which assures accuracy.

### Substitutes for

### **Aluminum Paints**

Five new paints, designed to provide civilian markets with products to replace now unavailable aluminum paints, has been announced by American-Marietta Company, 43 East Ohio Street, Chicago. Designed for both new construction and maintenance applications, they may be applied by brushing or spraying. Valdura Tank White replaces aluminum paint in applications where it is desirable to cut evaporation losses and to reduce inside temperatures. Valdura Metal Lead paint provides a protective, lead-colored metal coating for all metal surfaces, including new or old galvanized metal. Two Valdura Defense Grays are designed to provide low-cost effective protection and long durability on exposed metal surfaces. Valdura Enamelized Yellow Metal Primer is designed for all types of metal surfaces, particularly where metal is subjected to extremely damp, wet and foggy condi-tions. It may be used under water when covered with one or two coats of Defense

1797 McCormick Building, Chicago, III.



Hard Maple is getting the call today in plants from Coast to Coast.

Why? Because this comfort floor speeds up production, yet may actually cost less.

Warm and dry underfoot, it prevents loss of body warmth through conduction, adds to comfort, protects health. Resilient, it slows up fatigue, while its lasting smoothness speeds up work and traffic, to the benefit of production.

Surprisingly, though, Hard Maple usually costs no more-often, less. So tough-grained, at takes abuse without showing it; often gives many more years of service.

MAPLE FLOORING MANUFACTURERS **ASSOCIATION** 

Today, more than ever, industry needs Hard

Maple - for faster production. Ask your archi-

tect about MFMA Northern Hard Maple, in

strips or blocks. See Sweet's, Sec. 11/88.

Floor with MFMA Maple

MANUFACTURERS RECORD FOR

## Industrial News

### Lincoln Electric Company Opens Jacksonville, Florida, Office

The Lincoln Electric Company, world's largest manufacturer of arc welding equipment, Cleveland, Ohio, announces the opening of a new office in Jacksonville, Florida, Mr. J. M. Chapple, who until recently was with the Detroit Office of the Company and who was Managing Director of the Lincoln Electric Company (Australia), Pty. Ltd., at Alexandria, will be in charge of the new branch. The address of the Jacksonville Office for the present will be care of Union Terminal Warehouse, 700 East Union at Ionia.

### Cleveland Crane & Engineering Company Appointments

H. T. Florence has been named vice president of The Cleveland Crane & Engineering Co., Wickliffe, Ohio. This position is in addition to his present capacity of general manager. Mr. Florence has served with the company for 20 years in various shop departments, engineering and sales. W. C. Sayle who formerly was vice president has been elected president. He succeeds his father, the late W. D. Sayle, who founded the company in 1897.

### Babcock & Wilcox Transfers W. J. Thomas

W. J. Thomas, who has spent nine years with the Process Equipment Division of The Babcock & Wilcox Company at Barberton, Ohio, has now been transferred to the executive department of the Sales Offices of The Babcock & Wilcox Tube Company at Beaver Falls, Pa. Prior to coming with The Babcock & Wilcox Company, Mr. Thomas was associated with the Petroleum Iron Works Company at Sharon, Pa., as Assistant Manager of Sales.

### Youngstown Steel Products Company Appointment

Announcement of P. G. Boyd's appointment as District Sales Manager of Youngstown Steel Products Co., was made recently for the newly established Washington District. This includes the District of Columbia, the Northeastern Section of the State of North Carolina, and the State of Virginia except Bristol, all of which have been, heretofore, in the Philadelphia District. The Washington, D. C. office is located at 920 Shoreham Building.

### World's Largest Wind Tunnel To Be Built By Pittsburgh-Des Moines

Providing a man-made super-hurricane for testing full-scale aircraft under controlled conditions, the world's largest wind tunnel is under contract for erection by Pittsburgh-Des Moines Steel Company, and is scheduled for completion early in 1944 at Moffett Field, California.

The construction contract, awarded November 7th by the National Advisory Committee for Aeronautics, amounts to over \$5,000,000 and will require a thousand carloads of materials including fourteen thousand tons of fabricated steel. The specifications call for the structure to be finished within 900 days. At the peak of operations, the contracting company will employ approximately 500 men at the site. The structure, when completed, will be 200 feet high, 900 feet in length and 400 feet in width, and will cover 10 acres of ground.

### T. I. Phillips Elected Vice President of Westinghouse

Election of T. I. Phillips as a vice president of the Westinghouse Electric and Manufacturing Company was announced after a recent board meeting by A. W. Robertson, Chairman. Mr. Phillips started with the Company as a tool maker in 1915 and has been assistant to the president of the Company since February 14 of this year.

A native of London, England, Mr. Phillips was educated in public schools of Lynn, Mass. In 1930, Mr. Phillips was appointed manager of the works department at the Nuttall plant of the Company and three years later was made works manager for the Company, to serve as control authority for all



Spur track over milling machine helps operator set heavy die block.



Rail Overhead Handling Equipment particularly suited to your

individual problem.

manufacturing operation. His appointment as assistant to the president, in charge of a headquarters manufacturing staff and supervision of several important divisions of the Company, was made last February.

### **Barrett Company Consolidated With** Allied Chemical & Dye Corporation

As of December 1, 1941. The Barrett Company has been consolidated with its parent Company, Allied Chemical & Dye Corporation, 40 Rector Street, New York, N. Y., and hereafter its business will be conducted under the above title. All contracts will be performed by the successor Company, and except for the change in name, operations will be conducted as heretofore by the same personnel.

## Trade Literature

DIESEL ELECTRIC SETS

BIESEL ELECTRIC SETS
Booklet—describes the advantages of making one's own electricity with "Caterpillar" Diesel Electric Sets, and many installations throughout the country are pictured. Better than ordinary Diesel economy, a source of current entirely independent of outside interference and simplicity of operation are among the features claimed for the sets by the manufacturer. The booklet may be obtained by requesting Form 6905.

Caterpillar Tractor Co., Peoria, Ill.

WELDING PROCEDURES
Booklet—clarifying the proper welding process for a particular metal under various circumstances, the book recommends the best filler metals to be used for each process, and describes specialized welding techniques not commonly known. Metals are grouped alphabetically under such headings as Aluminum. Die Cast Metals, Malleable Iron, Steel, Wrought Iron, etc. For each analysis of each metal, (such as high carbon steels, medium carbon steels, low carbon steels) recommendation of process, of filler rod, and special technique are given.

Air Reduction. 60 East 42nd Street, New York City.

CRANES AND HOISTS
Catalogues—No. 350 "Load Lifter" Electric Hoists; No. 202-A Low Head Room Cranes; No. 203-A Hand Operated Cranes; No. 211-A and No. 212 Electric Traveling Cranes. Shaw-Box Crane & Hoist Division of Manning, Maxwell & Moore, Inc., Muskegon, Michigan.

Michigan.

PUMPS
Catalog—contains useful information for chemical, refinery, power plant, water works and all other engineers using chemical pumps and proportioning equipment. It illustrates, describes and rives specifications of a greatly-expanded line of Milton Roy Pumps for handling chemicals in precisely-controlled quantities. Pumps are shown in which capacities are adjustable to as little as one pint per hour. Other pumps are illustrated with capacities adjustable from zero up to 2000 gallons perhour. Heavy-duty pumps capable of operating against pressures up to 20 thousand pounds per square inch, also a new pump made from transparent plastics are offered. Milton Roy Pumps, 1353 E. Mermaid Ave., Philadelphia, Pa.

COMMERCIAL & INDUSTRIAL STOKERS
Catalog—No. 541 covers commercial and industrial models only, or larger-size stokers
(up to 400 H. P.) that manufacturers and
others might need in connection with National Defense work. New features and
improvements of Kol-Master are Automatic
Combustion Control—Correct Coal Carbonization, Reverse-Flight Feed Screw and
Dividing-plate Burners.
Kol-Master Corp., Oregon, Ill.

Catalog—N-58-461, "Micromax Telemetering and Totalizing Recorders for Electric Power' shows how not only utility systems and stations but industrial power plants and power purchasers are effecting operating economies by indicating and recording load continuously and automatically. Well illustrated, this publication describes equipment which can telemeter over practically any distance—can totalize the load of almost any number and any combination of generators, stations, tie lines, etc.—is easily adaptable to either simple or complex requirements.

Leeds & Northrup Company, 4934 Stenton Avenue, Philadelphia, Pa.

SPECIFICATION PAINTS

File folder "Facts on U. S. Government Finishes"—contains data sheets on the widely used Army and Navy Specification finishes and tells how and where they are applied. Permits manufacturers, not heretofore familiar with Army and Navy finishes, 
to figure unit costs accurately and establish 
efficient production schedule in keeping with 
particular equipment.

Roxalin Flexible Lacquer Company, Elizabeth, N. J., Box 511.

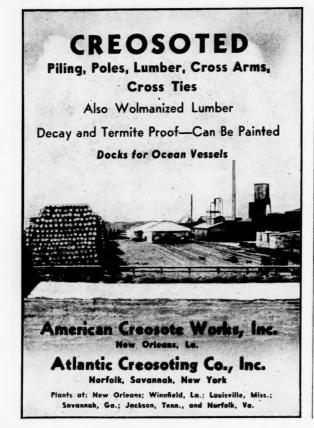
Bengineer and operating covering design and operating characteristics of Watson-Stillman Company, Roselle, N. J. Watson-Stillman Company, Roselle, N. J.

UMPS
Catalog—contains practical information
concerning pump adaptation for a wide
range of duties under varying conditions
and presents many practical drawings for
laying in this type of pump.
Pomona Pump Co., 206 E. Commercial
Street, Pomona, Calif.

WATERPROOFING MATERIALS
Bulletin—describes various rubber-base compounds designed to stop leaks or seepage through brick, concrete, stuceo or other types of masonry. When applied to metal, these Primoid Products are said to prevent corrosion or rusting, since they are resistant to oils, alcohol, gasoline, brine, acids and other chemicals.

Primoid Products Corporation, 103 Park Avenue, New York.

COMPRESSORS
Bulletin—No. 192, describing the new horizontal duplex heavy duty compressors. Textual material, line drawings, and photographs deal with the operation, installation, and lubrication of these compressors, which may be obtained from the Pennsylvania Pnmp and Compressor Co., Easton, Pa.





# So you're a metal worker?

For 81 years - ever since 1860 -Lyon Conklin & Company, Inc. has been building a fine reputation as a "metal bank" for sheet metal contractors and industrial plants. Immense purchasing and storage capacities have made our office the logical "first-asking place" for sheet metals and accessories. Whenever and whatever materials are available-this firm will be up toward the head of the list to receive them.

# Lyon, Onklin & O. Inc.

BALTIMORE, MARYLAND

MANUFACTURERS RECORD FOR

DE

# **Electric Arc Welded Double Bowstring Trusses**

Recreation Building, City of Tampa, Florida
BETTER CONSTRUCTION AT LOWER COST



THE
AETNA STEEL
CONSTRUCTION
COMPANY

Jacksonville, Florida

# PLANT SITES

in the Seaboard Southeast

In the six southeastern states served by the Seaboard Air Line Railway there are many excellent plant locations suitable for a wide variety of enterprises.

Assets of prime importance include an abundance of raw materials, cheap power, good labor conditions, excellent transportation facilities, quick access to markets, and last but not least, a friendly people who are sympathetic towards industry and its problems.

Detailed reports will be furnished on specific sites upon request. To interested prospects we offer all the benefits of an experienced plant location service without obligation or cost.

WARREN T. WHITE, GENERAL INDUSTRIAL AGENT SEABGARD AIR LINE RAILWAY, NORFOLK, VA.

Industrial Department
SEABOARD
AIR LINE RAILWAY



FIRST SQUADRON ARMORY, PHILADELPHIA, PENNA. 6,000 SQ. FT. WHITE CORRUGATED WIRE GLASS SKYLIGHT

SPECIFY
ORIGINAL SOLID CORRUGATED
WIRE GLASS SKYLIGHTS

PENNSYLVANIA WIRE GLASS CO.

1612 MARKET STREET
PHILADELPHIA, PENNSYLVANIA

SAMPLES ON REQUEST

# B. Mifflin Hood Company

WRITE FOR LITERATURE

**Chemical Stoneware:** 

ALL TYPES CHEMICAL BRICK AND SHAPES.
SPIRAL, DIAPHRAGM, & RASCHIG RINGS.

**Quarry Tile:** 

ALL TYPES QUARRY FLOOR AND WALL TILE.
ROOF TILE AND FACE BRICK.

PLANTS: DAISY, TENN; ADAIRSVILLE, GA.;

OFFICES: ATLANTA, GA.; DAISY, TENN.; CHARLOTTE, N. C.

DECEMBER NINETEEN FORTY-ONE

### New Use For Plastic Replacing Scarse Metals

A new architectural use for a plastic has been developed for blocking off sections of terrazzo, a marble and cement composition commonly used for flooring in large buildings.

Strips of plastic tenite attached to ribbons of galvanized iron are used as an outline of the design to be followed in laying terrazzo floors. The tenite part remains visible after the terrazzo has been ground and polished. The strips localize minor cracks which occur when terrazzo floors settle or contract in hardening. Instead of appearing as an irregular split, the cracks tend to run evenly along the strips.

Terrazzo strips have hitherto been made almost exclusively of metals. The shortage of zinc and brass for non-defense purposes drew the attention of designers to the possibilities of applying tenite. Tests were conducted, and as a result the plastic strips have replaced metal ones in a number of applications.

The tenite pieces are said to be more economical to manufacture than brass or zinc strips and are installed in the same manner as metal ones. Ordinary tin-shears can be used to cut the pieces and they can be bent into various designs with ease.

Moisture does not affect the strips to an appreciable degree, nor is the mate-

rial hazardous in the presence of fire. In one test, a welding flame of approximately 3,000 degrees Fah. was placed directly on the plastic inlaid in the floor. The material melted but did not catch fire. Small rivets are used to fasten the tenite strips to the iron base. The plastic part that shows in the finished floor is five thirty-seconds of an inch wide. and the assembled piece is one and onefourth inches deep. The Rockwell-Hardness-a measure of toughness-of the new strip is comparable to that of brass. When set in terrazzo floors, the strips can be ground in exactly the same way that brass and zinc are ground.

The strips are molded by Extruded Plastics, Inc., Norwalk, Conn., for Manhattan Terrazzo Brass Strip Co., Inc., New York City. Tenite is manufactured by Tennessee Eastman Corporation, Kingsport, Tenn.

### Radio To Control Shipping At Ordnance Plant

Trainloads of TNT, artillery shell, aircraft bombs, and antitank mines will move day and night by radio control through the immense switchyards of the Elwood Ordnance plant, Joliet, Ill., without the use of signal blocks or lights according to the Army's Ordnance Department.

All dispatching will be done by radio the first exclusive reliance on radio control for directing such large scale switching operations. Eighty miles of railroad track knit the plant into a terminal yard covering 22 square miles, with 212 switches in the system.

When operating at capacity, the shell-loading plant will handle about 300 freight cars of its own. Practically all materials transported inside the plant, between the various storage and operating groups, are carried by the railroad. A 24-hour dispatching system is in effect.

Radio-telephone equipment will be installed in the cabs of the nine Diesel locomotives, and in two gasoline-powered maintenance cars. The radio is considered a safer and more positive method of control for directing high explosive freight in the plant yards than the ordinary railroad block signals, which are made inoperative by fog or other adverse weather conditions. No signal lights or blocks have been erected in the Elwood Plant yards.

The radio equipment is being manufactured by the General Railway Signal Corporation according to specifications furnished by the plant's communications department. The radio-telephones in the locomotives will be somewhat similar to the standard equipment in police squad cars, but will be of a marine type, immune to water, and will operate on frequency modulation, free from static or electrical disturbances.

(Continued on page 60)

# LANCASTER TANKS

**Elevated Tanks** 

Pressure Tanks

Steel Storage Tanks

**Process Tanks** 

Butane—Propane Tanks

Standpipes

Retorts

orts

Welded Pipe Riveted Pipe

Dredge Pipe and

Accessories

Extractors

General Steel Plate Construction designed for your requirements.

Lancaster Iron Works Inc. Lancaster, Pa.

# QUINN PIPE FORMS

HAND or WET PROCESS

Make concrete pipe on the job with Quinn Pipe Forms. They can be handled by less experienced labor and produce uniform concrete pipe of highest quality. Quinn Pipe Forms make pipe conforming to A. S. T. M. requirements as to wall thickness and other standards.

Quinn Heavy Duty Pipe Forms are built to give more years of service—sizes for any diameter pipe from 12 to 84 inches—tongue and groove or bell end pipe—any length. Backed by over 30 years of service in the hands of contractors, municipal departments and pipe manufacturers.

### HEAVY DUTY PIPE FORMS

Our Heavy Duty type with Adjustable Locks is shown above. Quinn Heavy Duty Forms are also available with a new wedge-type lock.

### **Medium Duty Pipe Forms**

Meet the demand for low cost equipment that produces a uniform quality of pipe in smaller amounts. For making pipe 12 to 60 inches in diameter—any length.

MRITE TODAY
Get complete information on prices and Special Construction Features of Quinn
Pipe Forms. Give us size of job for estimate on your pipe form needs.
Also manufacturers of Quinn Concrete Pipe Machines for making pipe by machine

QUINN WIRE & IRON WORKS 1805 12"ST. BOONE, IA.

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# SDUTHLAND PRODUCTS

-WELDED OR RIVETED-

We now manufacture and offer to the trade tanks in all sizes for pressure or gravity work. Also other steel equipment of either

### WELDED OR RIVETED CONSTRUCTION

This applies to field as well as shop built equipment

Write us for information and quotations

Chattanooga Boiler & Tank Co.
CHATTANOOGA, TENN.

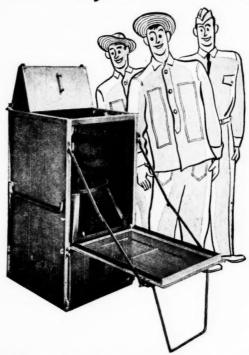
**TANKS** 





DECEMBER NINETEEN FORTY-ONE

# They'll *KNOW* "Stainless" When They're Mustered Out



Healthy youths mean a hard-hitting army alert and eager to get its job done. "Staying in the pink" often depends on food—and the way it is served.

Here again Armco Stainless Steels do their bit. U.S. Army boys on maneuvers are on good terms with field ranges made of this rustless metal. They are good assurance of piping-hot meals after a tough day in the field.

Field ranges made of Armco Stainless are sanitary—casily cleaned with soap and water before every meal. They resist bending and denting, are light in weight, easy to load and unload in a hurry. And Armco Stainless Steels withstand high temperatures. Like peacetime products made of this durable metal they will last a long time.

If you make products for "defense" why not consider the many advantages of Armco Stainless Steels. If not, remember these rustless metals will be plentiful again in the post-war period, ready to help you capitalize future opportunities. The American Rolling Mill Company, 3101 Curtis Street, Middletown, Ohio.



ARMCO

STAINLESS STEELS

### **New Plants and Expansions** in the South

(Continued from page 31)

Pa., to connect with 400-mile line, projected from that point to Pittsburgh, Pa.

BLADENSBURG — gas plant — Prince Georges County Board of Commissioners, Upper Marlboro, approved rezoning of 20-acre land on River Road near Bladensburg, for erection of industrial gas manufacturing plant by Southern Oxygen Co. B. B. ing plant by Southern Oxygen Co., R. B. President, Arlington, Va.; approx.

FAIRFIELD STA. BALTIMORE—expansion—Maryland Dry Dock Co. made pro-posal to Board of Estimates for the trans-fer of city-owned property at Fairfield for fer of city-owned property at Fairfield for use in connection with \$5,000,000 expansion program.

FAIRFIELD STA. BALTIMORE-pipe

FAIRFIELD STA. BALTIMORE—pipe ned electric shop—Maryland Drydock Co., received low bid of \$140,000 from Lacchi Construction Co., 337 St. Paul Place, Baltimore, for construction of pipe and electric shop; J. E. Greiner Co., 1201 St. Paul St., Baltimore, Engr.

SPARROWS POINT—addition—Bethlehem Sparrows Point Shipbuilding Co., received bids November 6 for 2-shipways; private plans; following are prospective estimators: Booth & Flynn, Pittsburgh, Pa., McLean Contracting Corp., Fidelity Bidg., Baltimore; Merritt, Chapman & Scott, New York; Tuller Construction Co., Red Bank, N. J.

SPARROWS POINT - addition - Bethlehem Sparrows Point Shipyard, Inc., received bids Navember 28 for addition to machine shop No. 2; private plans; Cummins Con-struction Corp., 803 Cathedral St., Balti-more, estimating.

### MISSISSIPPI

BILOXI — ship building plant—Biloxi Port Commission, receives bids December 8 for launching ways and pier at ship build-ing plant; I. Daniel Gehr, Archt. CLARKSDALE—grain elevator—Coahoma County Chamber of Commerce, William H.

Maynard, President, plans construction of 750,000 bushel grain elevator system; estimated cost \$250,000.

mated cost \$250,000.

MERRIMAC—plant — War Department plans construction of new explosive plant; will be owned by Government and controlled by Ordnance Department; to be known as the Badger Ordnance Works.

### MISSOURI

AURORA—cheese factory—O. E. Moore and Sons, owner of Midland Creameries, may establish cheese plant and powdered

ilk plant. KANSAS CITY — expansion Products Refining Co., George M. Moffett, President, 1001 Bedford, plans expansion to plant on north bank of Missouri River; one of the immediate enlargements will add apof the immediate enlargements will add approx. 40% to the sugar output of the plant; including this sugar plant announcement following work in North Kansas City includes: 2-story unit to add to the manufacture of dry starch, construction in progress on building with capacity 75,000 lbs. daily; equipment for enlargement of powder plant to include installation of two additional boilers, 65,000 lbs. of steam an hour, and a 4,000 k.w. turbine; projected expansion as a latter project will be enlargement of the regular sugar process from 3,500 bags of the regular sugar process from 3,500 bags to 5,000 bags of anhydrous sugar; Layne-Western Co. has contract, work underway, on drilling 3 wells.

NORTH KANSAS CITY BR. KANSAS

CITY — expansion—Standard Steel Works, Mason L. Thompson, President, plans expanding plant; will construct new building, northwest corner of 16th and Howell Sts.; 300 x 115 ft.; approx. cost \$80,000.

NORTH CAROLINA
SPINDALE—mill—The Mill Art Company, New York, will establish textile mill in building near Southern Railway depot; install equipment to include 8 looms acquired from Stonecutter Mills Co.; manufacture needlepoint canvas.

WILMINGTON — shipyard — Southport Shipyards, Inc., Louis Hanson, incorporated to probably establish a shipyard.
WILSON—packing plant—Nuehoff Packing Co., Salem, Va., interested in establishment of \$200,000 packing plant; erect \$75,-000 building.

### OKLAHOMA

OKLAHOMA

Pipe line—Continental Oil Co., Tulsa,
A. L. West, Chief Engr., plans natural gas
pipe line from Navina in Logan County to
its gasoline plant in Edmond field.
Gas Plant—Phillips Petroleum Co., Bartlesville, Okla., applied to War Department
for permission to expand facilities at Oklahoma City, Okla., and Borger, Tex.; will
expend \$412,296 in the Oklahoma City area
and \$493,338 at Borger, Tex. and \$493,338 at Borger, Tex.

### SOUTH CAROLINA

CHARLESTON—drydock—War Department approved construction of a \$2,000,000 floating drydock at plant of Charleston Shipbuilding and Drydock Co.; slip will be dredged to a depth of 41 ft. below mean low water, and will accommodate a 6,000-top drydock co. ton drydock.

### TENNESSEE

TENNESSEE

Pipe line—Tennessee Gas & Transmission
Co., Curtis B. Dall, Chattanooga Bank Bldg.,
Chattanooga, contracted to supply all natural gas requirements of Aluminum Company of America for its operations in Alcoa; plan to construct, within the next 6 to
8 months, a 20-inch high pressure pipe line,
800 miles long, from the natural gas producing received. It outsides into the control ing area of south Louisiana into the central and eastern sections of Tennessee; approx. cost \$22,000,000.

CHATTANOOGA — antipollution cules Powder Co. will expend \$150,000 to prevent pollution in tributaries of Lake Chickamauga in connection with plant of

Volunteer Ordnance Works.

CHATTANOOGA—tank farm — Shell Oil
Company will construct \$125,000 tank farm
on site of Volunteer Ordnance Works; will company win construct \$125,000 tank farm on site of Volunteer Ordnance Works; will serve an area of approx. 100 miles around Chattanooga; deliver 2,250,000 gal. daily; facilities at the terminal, second to be begun on 6,200-acre TNT tract, will include a 1,050,000-gal. tank for storage of "regular" gasoline and a 210,000 gal. tank for premium gasoline storage; office and garage building, brick warehouse together with loading facilities are being built; L. W. Scott will be superintendent of terminal.

COLUMBIA — land — The Monsanto Chemical Co., acquired 525 acres of phosphate lands in Maury County.

CORDOVA — plant — National Fireworks Distributing Co., Memphis, received a \$300,000 building permit for the construction of a munitions plant.

a munitions plant.

### TEXAS

Plant - Humble Oil & Refining Co., Nixon Bldg., Corpus Christi, asked Railroad Commission for permission to establish a 200,-000,000-ft. daily gas recycling plant in Katy Field, Waller County, and for 10-acre spac-

Field, Waller County, and for 10-acre spacing and 20-acre proration units with 20-acre tolerance for the 6,400-ft, sand in the Lolita Field, Jackson County.

Plant—Monsanto Chemical Co., St. Louis, Mo., will construct and equip plant in or near Galveston to be used in manufacture of chemical products in connection with production of synthetic rubber; cost \$2,200,000; Defense Plant Corp. agreement.

ALICE — extension — LaGloria Corp., Jones Bidg., Corps Christi, plans expansion of recycling plant for manufacture of isobu-

of recycling plant for manufacture of isobu-tone; masonry and fireproof construction; built-up and galvanized roof; private plans.

built-up and galvanized roof; private plans.

AUSTIN — plant — Union Potash Co., subsidiary of International Agricultural Company, New York, who will build and operate magnesium plant, has selected 382-acre tract 3½ miles north of Austin, on upper Georgetown Road, for construction of the plant; project includes \$9,063,000 plant for refining magnesium; \$1,660,000 plant for extraction of dolomite ore; \$1,500,000 for site, utilities and other facilities; public power produced from the multiple-purpose dams of Lower Colorado River Authority will be used for plant; financed

by the Defense Plant Corp., subsidiary of Reconstruction Finance Corp.

HOUSTON — plant — General Printing Ink Corporation, 100 - 6th Ave, New York, plans construction of plant; cost \$100,000; David Harvey, Chief Engr.

HOUSTON — barge plant — San Jacinto Shipbuilders, Inc., Harry K. Johnson, Sr., of Highlands, Vice President and General Manager, starting preliminary construction on the \$3,285,000 Highlands barge plant; approx. \$30,000 worth of shops, buildings and three ways will be included in the preliminary construction; company has conliminary construction; company has con-tract for construction of five conc. barges 350 ft. long and 30 ft. deep with a 54-foot beam, for the Federal Government.

PORT ARTHUR — gasoline plant — Guli il Co, plans erection of 2500 barrel aviation gasoline plant; work to begin in about tion gasoline plant; work to begin in about 3 months at cost of approx, \$1,000,000; plant will include a Houndry catalytic cracking unit to produce base stock and a iso-octane plant to produce alkylates to blend the stock into 100-octane fuel; new plant will increase aviation gasoline production at Port Arthur refinery to 4000 bbls. daily.

### WEST VIRGINIA

WEST VIRGINIA

CHARLESTON — plant — Defense Plant
Corporation allotted \$3,500,000 for construction of new factory, to be operated by Carbide & Carbon Chemicals Corp., 30 E. 42nd
St., New York, in making butadiene.

FAIRMONT—plant—Office of Production
Management, Washington, D. C., granted a
priority rating, for obtaining 1,800 tons of
steel, iron and copper needed to construct
\$1,800,000 glass plant, to the Westinghouse
Electric & Manufacturing Co., David S.
Youngholm, Vice-President; it is estimated
that 1,412 tons of structural steel, 117 tons
of ferrous metal, 15 tons of copper, and
99 additional tons of steel, iron, copper and brass, will be used for erection of
plant; land has been graded, smoke stack
foundations put in, electrical substation almost completed, gas, water and sewer lines
are in and two sidings are being laid by
Baltimore & Ohio Railroad; will produce
approx. 10,000 tons of glass tubing per year
for fluorescent and incandescent lamps and
special electronic control devices used by
Army and Navy.

FAIRMONT — plant — Defense Plant

special electronic control devices used by Army and Navy.

FAIRMONT — plant — Defense Plant Corp. authorized construction of \$1,000,000 plant to be used by Westinghouse Electric and Manufacturing Co. for making equipment for the U. S. Army and Navy; plant will probably be located at site of Fairmont Lamp Works of the Westinghouse Co., and will manufacture electronic tubes. will manufacture electronic tubes

Hope Natural Gas Co., subsidiary of Standard Oil Co. of New Jersey, Union Bidg., Charleston, W. Va., reported, plans for construction of a natural gas pipe line from the Monroe natural gas field in northern Louisiana to Charleston, W. Va.; approxy. 1000 miles in length: estimated approx, 1,000 miles in length; estimated cost \$25,000,000.

HYDRAULIC MACHINERY
Bulletin No. 110-A—describes the many ways in which self-contained, high-speed hydraulic machinery and equipment can help speed production. Section 1 shows of photographs of hydraulic presses, pumps, jacks, and high-pressure valves with complete descriptive information as to type of unit, use, operating characteristics, dimensions, etc. Section 2 contains selective engineering tables on "Capacities of Hydraulic Rams," "Medium Carbon Seamless Steel Pipe," "Moments of Inertia of Rectangles," "Circumferences and Areas Circles," "Conversion Tables," "Specific Gravities and Weights," "Strength of Materials," etc.

Watson-Stillman Company, Roselle, N. J.

ADVERTISING
1941 Annual Book of Brad-Vern's Reports
—Contains detailed information as to how
much and where companies have increased
their advertising. This Report is a compilation of the schedules of approximately
25,000 advertisers as they are reflected in
the 419 publications covered. It represents
a continuing study begun as of January 1,
1939, for the eventual purpose of indexing
all display advertising appearing in all important publications addressed to business
and industry. Price \$12.50.
The Brad-Vern Company, 135-21 Union and industry. Price \$12.50.

The Brad-Vern Company, 135-21 Union Turnpike, Flushing, New York.

# EPPINGER AND RUSSELL CO.

Wood Preservers Since 1878

# CREOSOTE · Z.M.A.

Pressure Process

80 EIGHTH AVE., NEW YORK, N. Y.

POLES • CROSS ARMS • PILING • TIES POSTS, BRIDGE AND DOCK TIMBERS

Treating Plants—JACKSONVILLE, FLA. • LONG ISLAND CITY, N. Y.

# **CRUSHED STONE**

Only highest grades of crushed LIMESTONE AND GRANITE

Meeting all specifications

CAPACITY-8000 tons daily

Blue Ridge, Va. Pembroke, Va. Pounding Mill, Va.
Boxley, Greensville County, Va.

W. W. BOXLEY & COMPANY

Boxley Building, ROANOKE, VA.

IF you are interested in purchasing land on the East Coast of Florida for a home, grove, farming or grazing, Write—

### MODEL LAND COMPANY

Flagler System

St. Augustine, Florida

### ELBERTON, GEORGIA (1940 population 6,187)

**ELBERT COUNTY** 

(1940 population 19,622)

To new industries City and County taxes are waived for five years. Ample rail, motor truck and passenger bus transportation. Ideal climate.

Elberton needs a garment factory employing between 150 and 200 white women.

Address, Chamber of Commerce, Elberton, Ga.

# We have helped

many businesses that have brought us their financial problems.

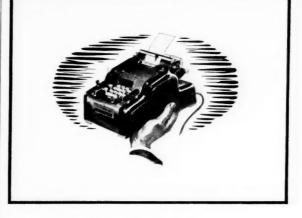
Correspondence invited

### BALTIMORE COMMERCIAL BANK

GWYNN CROWTHER, President BALTIMORE, MARYLAND

Member Federal Reserve System

Member Federal Deposit Insurance Corporation



# The handful of brains that will help write the peace

This 24-pound handful of steel ... Remington Rand's famed Printing Calculator . . . is a mechanical wizard with a one-track mind: Its only job is to save figuring time. Thousands of them today are doing this job superlatively well. • It saves figuring time because it's 100% efficient... the only calculator that can put in a full 8 hour day with no time out for reading the answer from dials, copying it down and doing the problem a second time to prove accuracy. That's because it prints the answer on tape ... not only the answer, but all factors of every division and multiplication problem as well...permanent proof, the first time, of the accuracy of your work. • It conserves vital raw materials right now when "fewer machines must do the same job." The Printing Calculator does the work of two machines . . , an adder and a calculator. The materials it saves, by eliminating the need for both kinds of "parttime" machine, are a direct gain for defense production . . . and it is America's genius for production, speeded by business machines like the Printing Calculator, that will inevitably enforce peace in this warring world. Remington Rand Inc., Buffalo, New York.

See...try...buy...the ONLY calculator that prints as it divides automatically, as it multiplies electrically, as it adds and subtracts...



# The Remington Rand Printing Calculator

# Southern Contracts Exceed \$2,735,000,000

(Continued from page 29)

000,000 warehouse proposed at Greensboro, N. C. Rustless Iron & Steel Corp., a pioneer in non-corrosive metals, let the contract for a \$400,000 addition to its Baltimore plant.

Great Atlantic & Pacific Tea Co. made the award for a \$500,000 warehouse at Baltimore. Nelio Resin Processing Corp., of Jacksonville, Fla., received priority ratings for a \$200,000 naval store distillation plant to be erected at Savannah, Ga. Neuhoff Packing Co., of Salem, Va., proposed a \$200,000 packing plant at Wilson, N. C.

### Industrial

(Including Private Utilities)

			Contracts Awarded First
		Contracts	
	Contracts	to be	Months
	Awarded	Awarded	1941
Ala	\$1,020,000	\$620,000	\$159,391,000
Ark	59,740,000	36,200,000	167,773,000
D. of C.			3,180,000
Fla	94,000		22,465,000
Ga	1,016,000	5,434,000	33,732,000
Ку		6,027,000	53,440,000
La	5,363,000	11,616,000	138,828,000
Md	865,000	770,000	83,440,000
Miss	73,000	6.150,000	33,032,000
Mo	20,314,000	816,000	70,447,000
N. C	221,000	242,000	18,625,000
Okla	600,000	562,000	19,379,000
S. C	1.340,000	7.045,000	12,745,000
Tenn	657,000	27,495,000	105,789,000
Tex	11.996,000	28,703,000	225,627,000
Va	2.158.000	680,000	12,455,000
W. Va	1,200,000	28,520,000	66,637,000
Total.	\$106,682,000	\$161,885,000	\$1,226,985,000

### **Private Building**

(Assembly, Commercial, Residential, Office)
Contracts
Awarded
November, 1941
First

	**	L 1011	First
	Novem	ber, 1941	
		Contracts	Eleven
	Contracts	to be	Months
	Awarded	Awarded	1941
Ala		\$210,000	\$2,421,000
Ark	\$144,000	70,000	696,000
D. of C.	356,000	12,000	11,733,000
Fla	1,575,000	590,000	28,949,000
Ga	807.000	398,000	9,195,000
Ку		25,000	65,000
La	967,000	459,000	4.691.000
Md	8,904,000	414,000	37,762,000
Miss	105,000	96,000	2,138,000
Mo	302,000	95,000	6.084.000
N. C	803,000	2,687,000	5,573,000
Okla	25,000	2,001,000	302,000
S. C	266,000	100,000	3.557.000
	252,000	135,000	2,312,000
	3,552,000	2,020,000	36.553.000
Tex	28,348,000	154,000	33,776,000
Va			
W. Va	15,000	70,000	512,000
Total.	\$46,421,000	\$7,535,000	\$186,319,000

### **Public Building**

ity, County, Federal; Housing; Schools)

	(City, C	ounty, Fede	eral; Housin	g; Schools)
				Contracts Awarded
		Novem	ber, 1941	First
			Contracts	Eleven
		Contracts	to be	Months
		Awarded	Awarded	1941
U	Ala	\$574,000	\$53,109,000	\$74,573,000
	Ark	66,000	4,289,000	10,267,000
	D. of C.	10,000	320,000	29,265,000
	Fla	5,689,000	5,786,000	58,594,000
	Ga	3,758,000	9,805,000	111,702,000
	Ку	452,000	852,000	13,162,000
	La	4,590,000	4,186,000	44,311,000
	Md	5,092,000	5,051,000	49,140,000
	Miss	1,269,000	1,765,000	32,036,000
	Mo	348,000	4,894,000	28,254,000
	N. C	2,092,000	4,591,000	62,732,000
	Okla	980,000	5,953,000	114,886,000
	S. C	934,000	4,004,000	33,443,000
	Tenn	345,000	1,038,000	18,713,000
	Tex	5,145,000	21,659,000	160,867,000
	Va	13,965,000	32,770,000	124,327,000
	W. Va	210,000	13,416,000	4,959,000
	Total.	\$45,519,000	\$173,488,000	\$971,231,000

### **Public Engineering**

Dams. Drainage. Sewers. Waterworks. etc.)

(Dams, Dr.	ainage, Sev	vers, Water	works, etc.)		
			Contracts		
			Awarded		
	Morror	nber, 1941	First		N
	Novel				41
	G	Contracts			Contr
	Contracts		Months		
	Awarded	Awarded	1941		Awai
Ala	\$669,000	\$1,005,000	\$3,347,000	Ala	\$712,
Ark	1,653,000	1,423,000	25,463,000	Ark	
D. C	367,000	95,000	4,434,000	D. C	24.
Fla	362,000	3,799,000	7.346,000	Fla	1,368,
Ga	231,000	2,713,000	2,332,000	Ga	1,132,
Ку		7,766,000	43,165,000	Ky	123,
La	605,000	1,909,000	6,260,000	La	474
Md	785,000	182,000	10,310,000	Md	264.
Miss	476,000	3.087.000	2.914.000		923
M.		1.188.000			
Мо	462,000		6,512,000	Mo	1,572,
N. C	284,000	5,780,000	6,266,000	N. C	152,
Okla		11,222,000	4,844,000	Okla	406,
8. C	90,000	1,635,000	7,093,000	S. C	939,
Tenn		2,992,000	34,684,000	Tenn	
Tex	2,401,000	22,338,000	25,046,000	Texas	3,783,
Va	309,000	6.674.000	4.796.000	Va	925,
W. Va	24,000	22,075,000	4,840,000	W. Va	409,
Total	89 719 000	\$95,883,000	\$199,652,000	Total\$	12 000

### Roads, Streets, Bridges

)		,	,	0
S		Nover Contracts Awarded	nber, 1941 Contracts to be Awarded	Contracts Awarded First Eleven Months 1941
0	Ala	\$712,000	\$600,000	\$7,830,000
0	Ark D. C	24,000	15,000	2,090,000 1,480,000
	Fla	1,368,000	600,000	5,479,000
)	Ga	1,132,000	85,000	6,159,000
)	Ку	123,000	165,000	14,125,000
)	La	474,000	350,000	9,989,000
)	Md	264,000	350,000	9,677,000
)	Miss	923,000		6.056.000
)	Mo	1,572,000	4,300,000	10,522,000
)	N. C	152,000	505,000	10,122,000
)	Okla	406,000	3,288,000	3,813,000
)	S. C	939,000	550,000	8,070,000
)	Tenn		1.010,000	6,158,000
)	Texas	3,783,000	1.947.000	29,682,000
)	Va	925,000	18,948,000	13,227,000
)	W. Va	409,000		6,518,000
)	Total\$	13,206,000	\$32,713,000	\$150,997,000

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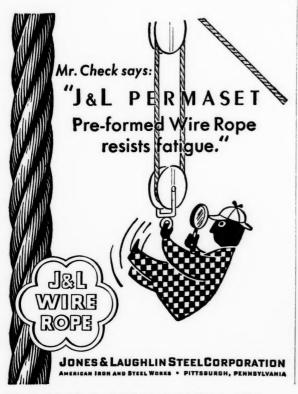
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DECEMBER NINETEEN FORTY-ONE

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### San Jacinto, Texas, Ordnance **Depot Nears Completion**

(Continued from page 27)

Engineering Officer; Lieutenant M. A. Root, Assistant Property Officer; Lieutenant G. P. Mitchell, Assistant Engineering Officer; Lieutenant William Summerville, Assistant Property Officer. Major Bailey is a former mining engineer in New Mexico, and Major Meadows a civil engineer from Georgia.

Russ Mitchell of Houston is Executive General Manager of the project. C. S. Henning, Jr., is Project Manager, and W. A. Jarrell, office engineer for the contractors. In the firm of Lockwood & Andrews and David M. Duller, Architect Engineers, M. G. Lockwood is engineer-in-charge. C. H. Topping is Executive Assistant.

The following sub-contracts were let for various phases of the work on the San Jacinto Ordnance

Pittsburgh, Des Moines Steel Company, elevated tanks; Fischbach & Moore, high tension lines; Layne-Texas Company, temporary

water wells; Texas Water Supply Corporation, permanent water wells; Eugene Ashe Electric Company, secondary transmission lines; Standard Dredging Company, dredging; Shell Pipe Line Corporation, change of elevation of telephone and pipe lines.

Fifteen other military establishments in the United States have contributed material and equipment toward completion of the Ordnance Depot. Among these are Camp Polk, Fort Bliss, Aberdeen Proving Ground, Fort Wingate, Fort Leonard Wood, Baytown Ordnance Depot, Anniston Ordnance Depot, Camp Wolters, Ravenna Ordnance Depot, Radford Ordnance Depot, Camp Wallace, and Camp Hulen.

### Dissenting Opinion of B. F. Fairless in "Captive" Coal Mine Dispute

(Continued from page 25)

"That decision violates the fundamental right of the American worker to a job regardless of membership or nonmembership in any organization.

"That decision violates the freedom of choice by the American worker of his own representatives in collective bargaining, a freedom which the Congress has taken great pains to protect.

"That decision runs counter to the statement publicly made by President Roosevelt on November 17, 1941, when he said:

"'I tell you frankly that the Government of the United States will not order, nor will Congress pass legislation ordering, a so-called closed shop. It is true that by agreements between employers and employees in many plants of various industries the closed shop is now in operation. This is a result of the legal collective bargaining, and not of Government compulsion on employers or employees. It is also true that 95 per cent or more of the employees in these particular mines belong to the United Mine Workers Union. The Government will never compel this 5 per cent to join the Union by Government decree. That would be too much like the Hitler methods toward labor.

"The United Mine Workers of America do not need a closed shop in the 'captive' coal mines for their own security. The present dominant position of that Union has been attained under open shop conditions.

"In my judgment, that decision will give great and renewed impetus to the closed shop controversy throughout American industry and will cause unnecessary labor unrest and agitation, with the consequent curtailment of production of various materials vitally needed for national defense.

"In view of the constitution of this Board of Arbitration and the appointment of its members by the President of the United States, that decision is bound to be considered as the imposition of a closed shop by Government action.

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"In my opinion, the Congress, in these days of national emergency, should alone undertake to change a long-established open shop into a closed shop, or a closed shop into an open shop. Furthermore, deliberate and wise action on a complicated and controversial issue cannot be expected when all of us are or should be straining every effort to attain our paramount objective, namely, complete national security and the destruction of Hitlerism."

### **New Process for Synthetic Pine Oil Production**

A new process for the synthetic production of pine oil from gum turpentine which makes it possible for the naval stores industry to meet current demands of the national defense program for this material is announced by Hercules Powder Company.

The process developed by the company produces synthetic pine oil of substantially the same chemical and physical properties as natural pine oil. It may be described chemically as a well-defined mixture of terpenes and secondary and tertiary alcohols having a mild aromatic pine aroma.

Laboratory and plant tests indicate the new pine oil is suitable for all of the important uses for which pine oil is now employed. Included in these are textile wet finishing, paint and varnish manufacture, paper coating, essential oils, industrial and commercial launder-ing, disinfectants, liquid scrub soaps, industrial cleansers, cattle sprays, rag boiling, leather processing, flotation reagents in mining metals, metal polishes, liquid hand soaps, pine scented bar soaps, and solvent for synthetic resins.

Pine oil is now required in great quantities for the separation of metals from their ores. Defense demands for zinc, lead, copper, and molybdenum have greatly increased consumption.

At the same time, the use of pine oil in the manufacture of woolen clothing for the army and navy has greatly increased the pine oil requirements of American industry.

A typical analysis of the new pine oil is as follows: Specific Gravity at 15.6/15.6° C.,

0.9186. Refractive Index at 20° C., 1.4813.

Unpolymerized Residue, 0.4. Specific Rotation, —3.95° Freezing Point, below —

Flash Point (Cleveland Open Cup), 154° F. Moisture, 0.4.

Moisture, 0.4.
Color 500 amber series, 3 amber.
" 200 red series, .25 red.
Distillation Range 5%, 198.0° C.
" " 10%, 199.0° C.
" " 30%, 203.0° C.
" " 50%, 208.2° C.
" " 70%, 214.2° C.
" " 90%, 219.5° C.
" " 95%, 223.0° C.

95%, 223.0° C.

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### Latin America's Depressed Foreign Trade

The foreign trade of Latin America has been seriously affected by the out-break of war in Europe. Markets which formerly accounted for one-third of its foreign trade are no longer available. This loss of markets, the scarcity of shipping, and the resultant accumulation of surpluses have depressed prices and reduced purchasing power in Latin

These developments are of grave concern to all the nations in the Western Hemisphere because of their mutual interest in solidarity and their dependence upon hemisphere defense, according to a report issued by the United States Tariff Commission. Many problems would be solved if trade between the American republics could be expanded. An analysis of the strategic and other essential materials which the United States may obtain from Latin America shows a number of possibilities for this expansion.

Of course some strategic or critical commodities cannot be secured in Latin America, either because they do not exist there or because there is a lack of the technical equipment and skill necessary for production. For others Latin America is a source of limited and inadequate supplies. In some instances, however, Latin American countries are the principal or sole sources of United States imports. Cacao beans, cattle hides, graphite, tungsten, wool, antimony, babassu nuts, bauxite, beryllium, castor beans, coffee, copper, flaxseed, henequen, iodine, quartz crystal, quebracho extract, sodium nitrate, vanadium, and zinc are among those which may be mentioned. The United States is a large producer of cattle hides, flaxseed, wool, bauxite, copper, nitrates, and zinc; but relies upon imports to supplement is production, especially when the demand is large.

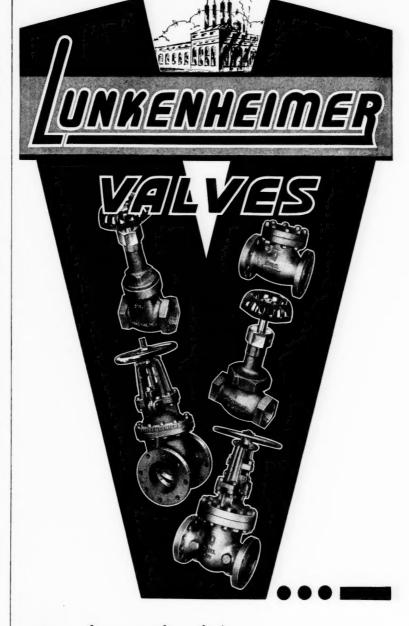
Other commodities not now obtained in important quantities from Latin America are, or might be, produced there. In this group are such products as crude rubber, tin, abaca (manila hemp), copra, jute, palm oil, and kapok. The possibility that the United States, because of war, might be cut off from its customary sources of these essential materials has aroused interest in projects to initiate, or increase, their production in Latin America.

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DECEMBER NINETEEN FORTY-ONE

### Subcontracting by South's **All-Welded Shipyard**

(Continued from page 23)

piling and earth levees. Because of the fact that the outfitting docks will close the inlet to Lake Yazoo, it will be necessary to construct a small boat canal at the south side of the fitting-out basins in order to permit access between the lake and the Pascagoula River.

A number of additional Industrial Brownhoist Diesel cranes, additional Diesel locomotives, and railroad flat cars will be purchased. Other necessary equipment includes air compressors, welding machines, burning outfits, and Westinghouse transformers.

J. B. Converse & Company of Mobile are the consulting engineers retained for the preparation of designs for the additional facilities. All heavy construction such as filling, dredging, and the building of ways and outfitting piers is being performed by Dollut & Ewin of Mobile, Alabama. The equipment for the additional gantry cranes is being furnished by the American

Hoist and Derrick Company of St. Paul, Minnesota, and the necessary towers and booms will be built by the Ingalls Iron Works Company. The new administration building is being constructed by the Perrilliat-Rickey Construction Company, Inc., of New Orleans. Other subcontractors include the Steel Construction Company and the Electric Constructors, Inc., of Birmingham, A. Ziegenfelder and Matt Sumedinger of Pascagoula. Miscellaneous piling, excavations, and concrete work is performed by J. E. Hemenway, L. L. Jarrell, and the Hancock Company.

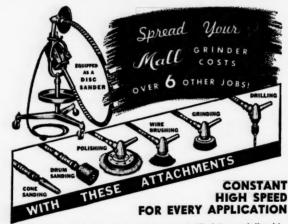
The revolutionary departures from conventional shipbuilding practices originated by the Ingalls Shipbuilding Corporation are of benefit to the Maritime Commission and the Navy as well as to the entire shipbuilding industry. Since the construction of the Pascagoula plant other shipyards have been established employing construction methods in which the Ingalls organization has pioneered.

Favorable climatic conditions, abundance of labor, and conveni-

ence to the source of steel have contributed largely to the success of the Company whose new methods of construction have revolutionized shipbuilding. The Ingalls Shipbuilding Corporation is a subsidiary of the Ingalls Iron Works Company of Birmingham, Alabama. The parent company is one of the leading independent fabricators of structural steel in the United States; other subsidiaries include the Steel Construction Company and the Birmingham Tank Company. In addition to the new shipyard at Pascagoula, a smaller yard is maintained at Decatur, Alabama, on the Tennessee River, for the construction of barges, river towboats, and other craft of similar nature.

### CORRECTION

In publishing the interesting article from Mr. J. H. Allen, President, Florida Pulp and Paper Company, in November, an error appeared in the last paragraph which referred to the probable gross sales this year of the entire pulp and paper business of the South. The figures of \$2,000,000 which were given should have been \$200,000,000.



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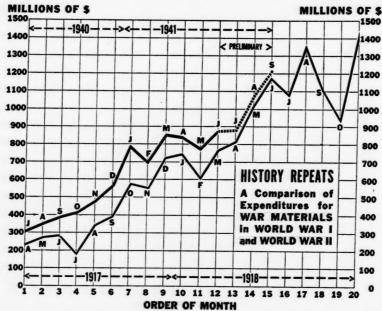
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As the chart above shows in a comparison of the present industrial defense effort with that of the United States during 1917 and 1918, disbursements for industrial activity month by month are running at a higher level today than in World War I. Also due to a lower price level today, the country probably is getting more for its money for every dollar spent than in 1917 and 1918. Furthermore, because of increased industrial efficiency through technical advances and billions of dollars of additional investment the productive consists of the productive conditions of the productive consists of the productive conditions of tional investment, the productive capacity of ecah workman has been vastly increased.

### Radio to Control Shipping at Ordnance Plant

(Continued from page 50)

A central station will be controlled by the train dispatcher, and a station in the classification yards will be controlled by the yardmaster. Locomotive engineers will operate according to orders received by them from the control stations.

The radio frequency controlling the trains is used only by the transportation department, and is separate from the frequency on which the guard and fire department radio operates, under control of the department of plant protection.

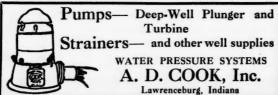
All radio equipment at the plant has been designed against every conceivable chance of sabotage.

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portable rollers, trench rollers, sheepsfoot
rollers and spreaders—and the parts these
products are playing in National Defense
work

Jeffrey Manufacturing Co., Columbus, Ohio.

OAKITE PRODUCTS—
Booklet—revised third edition, describing the uses of Oakite Compound No. 32 in removing water scales, rust, and similar deposits, with numerous illustrations. The compound's application to many different kinds of units is discussed. Copies are available upon request to Oakite Products, Inc., 57 Thames St., New York City.







FOR BRICK, TILE AND BLOCK,
FROM SMALLEST TO LARGEST CAPACITY. Write for information

J. C. STEELE & SONS, STATESVILLE, N. C.

Have it done by Philadelphia's OLDEST, the Country's LARGEST—HOT DIP JOB GALVANIZER— Joseph P. Cattie & Bras., Inc. Gaul & Letterly Sts., Philadelphia, Pa. GALVANIZED PRODUCTS FURNISHED





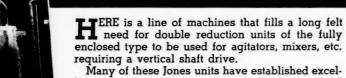


MANUFACTURERS RECORD FOR









Many of these Jones units have established excellent performance records in a wide variety of service. As a result of that experience a complete standard line has been developed covering 15 standard ratios ranging from 40 to 1 to 250 to 1 for all common motor speeds and a wide range of horsepower ratings.

The new Jones Bulletin No. 75 covers complete details on these new Worm-Helical Speed Reducers, with rating tables, dimension diagrams, torque charts and other application information. We shall be pleased to send you a copy.

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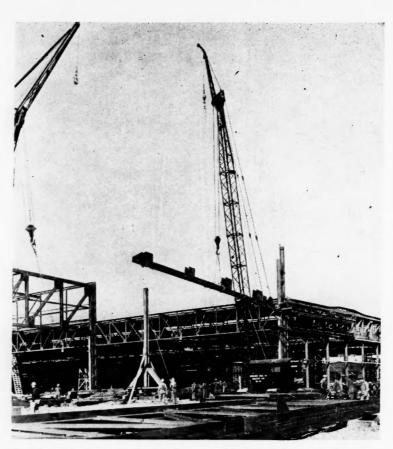
HERRINGBONE—WORM—SPUR—GEAR SPEED REDUCERS • PULLEYS
CUT AND MOLDED TOOTH GEARS • V-BELT SHEAVES • ANTI-FRICTION
PILLOW BLOCKS • FRICTION CLUTCHES • TRANSMISSION APPLIANCES

This jones worm-resical Speed Reducer on a lacquer agitator is typical of the wide range of services for which these drives can be used such as ore

used such as ters, pulp tank furnaces, ben Iones

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One of ten 40-ton capacity Erection Cranes purchased by Bethlehem Steel Company during the past year. This particular crane is at work on a large airplane plant recently completed in the South.

### **Baltimore Ship Launchings**

Ship launchings are becoming a common occurrence in the Baltimore area. three more having gone down the ways during November and five scheduled for December. In January it is anticipated that at the Bethlehem-Fairfield yard alone, Liberty ships, of which there are 62 under contract, will be launched at the rate of one a week.

Of the three ships launched during November, two were the product of Bethlehem Steel Company at Sparrows Point. The first of these was the S.S. A. C. Rubel, a 13,000-ton tanker for Union Oil Company of California, which entered the water on November 10. This vessel, with cargo tank space divided into 24 compartments allowing many grades of oil to be carried at one time, has a total tank capacity of 103,445

barrels or 4,344,690 gallons of oil. Pumping capacity is designed to load or unload the vessel in less than 12 hours. The principal dimensions are: length over all, 463 feet; moulded beam, 64 feet; moulded depth, 34 feet. 10 in.; and draft, 28 ft. 6 in.

Two days later, on November 12, Socony-Vacuum Oil Company's tanker S.S. Calusa slid down the ways at Sparrows Point. The Calusa, the keel of which was laid on April 23, has a deadweight of 16,000 tons and a tank capacity of 129,000 barrels or 5,418,000 gallons of oil. The cargo space, like that of most of the new tankers, is divided into 24 compartments for carrying different grades of oil at the same time. Pumping capacity will permit loading or unloading in about 16 hours. With an over all length of 501 ft. 41/2 in., and moulded breadth of 68 ft., the loaded draft is 29 ft. 81/2 in.

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Last of the three ships to be launched. and following closely upon the Patrick Henry and the Charles Carroll, was the S.S. Francis Scott Keys which slid down the ways at Bethlehem-Fairfield Shipyard, Inc., Baltimore, on November This was the third Liberty ship launched at this yard.

In conformity with the U.S. Maritime Commission's policy of naming these vessels for great Americans of the past, who have made important con-tributions to the country's liberty, the new vessel was named for the writer of the words of our National Anthem. This is particularly appropriate in view of the fact that the song was written at Fort McHenry, which is in sight of the yard.

At present the Fairfield yard has fifteen of its sixteen inboard ways completed, with keels laid on the first fourteen. With a second keel already laid on ways 1 and 2, this gave sixteen keels for the yard. Keel No. 17 was laid on November 19.

The Liberty vessels, which are of the Maritime Commission's EC2 design, have a deadweight capacity of 10,500 tons, a displacement of 14,100 tons, and a cargo carrying capacity of 468,000 cubic feet.



### 3000 Rooms in the South

Size means little to service, but twentyfive years in pleasing customers in Southern hotels, plus size, guarantees your satisfaction in these hotels.

## Dinkler Hotels

CARLING DINKLER, President

Operating

The Ansley, Atlanta, Ga.
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The O. Henry, Greensboro, N. C.
The Andrew Jackson, Nashville,
Tenn.
The Savannah, Savannah, Ga.
The Tutwiler, Birmingham, Ala.

MANUFACTURERS RECORD FOR

# Defense Savings Pay-Roll Allotment Plan

Mow company heads can help their country. their employees, and themselves

voluntary pay-roll allotment

voluntary | helps workers provide for the future

helps build future buying power

plan helps defend America today

This is no charity plea. It is a sound business proposition that vitally concerns the present and future welfare of your company, your employees, and yourself.

During the post-war period of readjustment, you may be faced with the unpleasant necessity of turning employees out into a confused and cheerless world. But you, as an employer, can do something now to help shape the destinies of your people. Scores of business heads have adopted the Voluntary Pay-roll Allotment Plan as a simple and easy way for every worker in the land to start a systematic and continuous Defense Bond savings program.

Many benefits . . . present and future. It is more than a sensible step toward reducing the ranks of the post-war needy. It will help spread financial participation in National Defense among all of America's wage earners.

The widespread use of this plan will materially retard inflation. It will "store" part of our pyramiding national income that would otherwise be spent as fast as it's earned, increasing the demand for our diminishing supply of consumer goods.

And don't overlook the immediate benefit . . . money for defense materials, quickly, continuously, willingly.

Let's do it the American way! America's talent for working out emergency problems, democratically, is being tested today. As always, we will work it out, without pressure or coercion . . . in that old American way; each businessman strengthening his own house; not waiting for his neighbor to do it. That custom has, throughout history, enabled America to get things done of its own free will.

In emergencies, America doesn't do things "hit-or-miss." We would get there eventually if we just left it to everybody's whim to buy Defense Bonds when they thought of it. But we're a nation of businessmen who understand that the way to get a thing done is to systematize the operation. That is why so many employers are getting back of this Voluntary Savings Plan.

Like most efficient systems, it is amazingly simple. All you have to do is offer your employees the convenience of having a fixed sum allotted, from each pay envelope, to the purchase of Defense Bonds. The employer holds these funds in a separate bank account, and delivers a Bond to the employee each time his allotments accumulate to a sufficient amount.

Each employee who chooses to start this savings plan decides for himself the denomination of the Bonds to be purchased and the amount to be allotted from his wages each pay day.

DECEMBER NINETEEN FORTY-ONE

How big does a company have to be? From three employees on up. Size has nothing to do with it. It works equally well in stores, schools, publishing houses, factories, or banks. This whole idea of pay-roll allotment has been evolved by businessmen in cooperation with the Treasury Department. Each organization adopts its own simple, efficient application of the idea in accordance with the needs of its own set-up

No chore at all. The system is so simple that A. T. & T. uses exactly the same easy card system that is being used by hundreds of companies having fewer than 25 employees! It is simple enough to be handled by a check-mark on a card each pay day.

Plenty of help available. Although this is your plan when you put it into effect, the Treasury Department is ready and willing to give you all kinds of help. Local civilian committees in 48 States are set up to have experienced men work with you just as much as you want them to, and no more.

Truly, about all you have to do is to indicate your willingness to get your organization started. We will supply most of the necessary material, and no end of help.

The first step is to take a closer look. Sending in the coupon in no way obligates you to install the Plan. It will simply give you a chance to scrutinize the available material and see what other companies are already doing. It will bring you samples of literature explaining the benefits to employees and describing the various denominations of Defense Savings Bonds that can be purchased through the Plan.

Sending the coupon does nothing more than signify that you are anxious to do something to help keep your people off relief when defense production sloughs off; something to enable all wage earners to participate in financing Defense; something to

provide tomorrow's buying power for your products; something to get money right now for guns and tanks and planes and ships.

France left it to "hit-or-miss" . . . and missed. Now is the time for you to act! Mail the coupon or write Treasury Department, Section A, 709 Twelfth St. NW., Washington, D. C.

### FREE - NO OBLIGATION

Treasury Department, Section A, 709 Twelfth St. NW., Washington, D. C.

Please send me the free kit of material being used by companies that have installed the Voluntary Defense Savings Pay-Roll Allotment Plan.

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Position \_\_\_\_\_



Self interest and patriotic duty both require that construction proceed without delay. No priorities are needed when you buy REBUILT AND REGUARAN-TEED equipment from "E.C.A."

### SPECIAL

American Revolver Mdl. 465, Ser. #110, 10 ton cap., mtd. on double flanged wheels, equipped with 75' lattice type boom. Steam Powered.

### AIR COMPRESSORS

-Portable gasoline driven air compressors, all makes, these sizes, 310 ft., 260 ft., 220 ft., 160 ft., and 110 ft.

BINS

8-1--150 Blaw Knox bins; 1--118 ton Blaw Knox,
1--117 ton Blaw Knox, 1--72 ton Blaw Knox,
1--51 ton Blaw Knox, 1--35 ton Blaw Knox,
30 ton Johnson. All 2 comp. except 72 ton
Blaw Knox, 3 comp.
Above with or without weigh batchers.

### CRANES, DRAGLINES AND SHOVELS

- Link Belt, K-55, Ser. No. 1698, 70' boom, 2 yd. bucket, also have 2 yd. shovel attachment.
   Link Belt, K-48, Ser. No. 1728, 60' boom, 2 yd.

- bucket.

  Northwest Model No. 5, Ser. No. 3572, 50' boom with 1½ yd. pull shovel attachment.

  Link-Belt model K-42, Ser. No. 1265, 45' boom, 1½ yd. bucket, also 1 yd. trench hoe att. or 1½ yd. shovel front.

  Northwest model 104, Ser. No. 2079, 45' boom, 1½ yd. bucket, with 1 yd. shovel attachment.

  Northwest Model No. 4's. Ser. No. 3411, 3445, 3493, with 40' boom and 1 yd. pull shovel at-tachments.

- tachments.

  Erie, gas air, 2 yd. Ser. No. 4365, 9758, with

  45' boom and shovel attachment.

  Northwest model 105, Ser. Nos. 1645, 1522, 40'

  boom. 1 yd. bucket.

  Osgood Heavy Duty, Ser. No. 2069 and 2087,

  2403, 40' boom. 1 yd. bucket and with 1 yd.

  shovel attachment.
- 3—Osgood Heavy Duty, Ser. No. 2969 and 2987, 2493, 40° boom. I, vd. bucket and with 1 yd. shovel attachment.

  1—Thew % yd. Gasoline Shovel with % yd. shovel front and 40 ft. crane boom. Serial No. 2801.

  1—Keelbrin Model 301, Ser. 544 and 40° boom. Heavy standard with the short of the short



PHILADELPHIA 1515 Race St.

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### FOR SALE:

Used Pittsburgh-Des Moines Steel Water Tower and Tank, with hemispherical bottom, tower height to bottom of sphere, 80 feet, Tank Diameter 17 feet, Capacity 40,000 gallons. Complete with Riser Pipe, Ladder, Walkway, etc. Inspection invited, as now erected at plant of undersigned. Will sell as is of r. o. b. cars.

The Hagerstown Shoe & Legging Company Hagerstown, Maryland

AIR COMPRESSORS:
Elec.: 676, 1300, 1578, 2200 & 2850 Ft.
Bitd.: 368, 549, 676, 870 & 1300 Ft.
Diesel: 105, 368, 425, 603, 900 & 1300 Ft.
Casoline: 110, 220, 315, 415 & 500 Ft.
Steam: 150, 368, 540, 1500 & 1958 Ft.
CRUSHERS: Jaw 48x42, 16x9, 18x10, 24x13, 36x15, 30x10, 30x15, 36x24, 36x48
STEEL TANKS: 10,000, 15,000 & 20,000 Gal.
BOILERS: Economic—60, 100 & 125 H.P.
BUCKETS: Clamshell—34, 17d.&27d.Cap.
LOCOMOTIVES: Gas and Diesel—4, 6, 8, & 14 ton, 20 ton, 30 ton & 55 ton.
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HOISTS: Steam—6x8, 7x10, 84x10 & 9x12
Electric: 35, 60, 100, 125, & 400 H.P.
Gasoline: 15, 35, 60, 80 & 110 H.P.
MIXERS: Concrete: 108, 148, 218 & 288
DERRICKS: GUY: 5 ton, 7½ ton, 15 ton
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BELT: Conveyor: 14 In., 16 In., 18 In., 24
In., 30 In., 36 In., 40 In., 48 In., 60 In.
IDLERS:—36 In., 30 In., 24 In., 18 In., 24
In., 30 In., 36 In., 40 In., 48 In., 60 In.
DEYERS: 42°x24', 5'x35', 60'x30', 68°x60'
HAMMERMILLS: 36x24, 24x18, No. 3, 4 & 6
SCREENS: Vibrating: Hummer 4x5 & 3x5
CARS: Dump: 1 Yd.; 14, Yd., 5 Yd., 12 Yd.
ENGINE: Diesel; 60 H.P. & 100 H.P. F.M.
170 KVA 3 P., 60 C., 2300 V. WORTHING DIESEL UNIT.

- SPECIALS

  2—1000 GPM Elec. Underwriters Fire Pumps.

  17—Steel Storage Tanks 8,000, 10,000, 15,000 and 60,000 Gal. Cap.

  13/4 Yd. 43-B Bucyrus Erie Diesel Caterpillar Shovel, New 1937.
- -Monighan Diesel Walker Dragline, 90, 130 and 160' booms. 3, 6, 9 yds. capacity.
- 3 Pierce 11/2 & 3 ton tandem Gas Rollers.
- -1000 ft. cap. Chicago Pneumatic Diesel air compressors. Very fine.

ASPHALT EQUIPMENT
3—1000 gal. Etnyre Mack Distributors, 1/2
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R. C. STANHOPE, INC. Lincoln Bidg., 60 E. 42nd St., New York

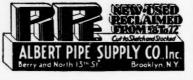


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### PIPE

Reconditioned pipe, new threads and couplings, all sizes,  $\frac{\pi}{4}$  in. to 36 in., guaranteed suitable for all practical purposes.

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### **SHOVELS & CRANES**

I—Marion Model 362 Diesel shovels, 1½ yd. Lorain 77 Diesel Shovel, 1½ yd. Bucyrus Erie 50-B electrie shovel, 2 yds. Northwest #6 crane, 1½ yd., 60′ hm., gas. Lima 101 crane-shovel-dragline, 1¼ yd., Link-Beir model K. gas crane, 50 ft. boom. Northwest Model 105 shovel and crane, 1 yd. Ind. Brownhoist loce. crane, 20 tons, electric.

### TRACTORS—TRENCHERS GRADERS-ROLLERS-ETC.

RICHARD P. WALSH CO. 30 Church St. N. Y. City

SYNCHRONOUS MOTOR 100 HP. 1200 RPM. 3/60/220, General Elec. ATI SLIP RING MOTOR 400 HP. 500 RPM. 3/60/2300, Westinghouse CW

M-G SET 75 KW. 125 V. DC Ideal 3/60/440 V. AC motor

GASOLINE ENGINE
100 HP. 1200-1400 RPM. Sterling FC4, 4 cylinder
TRANSFORMERS
3—50 KVA. 1-60-2300/230-460 V. Moloney HE

AC GENERATORS
15 KW. 1800 RPM. 3/60/220, General Elec. TAB
100 KVA. 1200 RPM. 3/60/220, General Elec. ATB AIR COMPRESSOR 625 CFM. Bury class CCB 18x10x14 two stage

75 & 150 KW. 250 V. DC Crocker-Wheeler generators, dir. con. Russell steam engines

Rockford Electric Equipment Co.
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We have the following

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1—2" Bignail and Keeler Single Head Pipe Cutting
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Keystone Pipe & Supply Company, Butler, Pa.

### FOR SALE Second-Hand Flanged Fittings and Valves, all in No. 1 cond.

- -12" Standard flanged ells, 18½" center to face, 12 bolt holes, 19" flanges, drilled standard.
  -12"x10"x12" Standard flanged tees, 12" center to face and 24" face to face.
  -12" Standard flanged nipple, 19½" face to face.

12 center to flanged nipple, 19 ½" Tace to face.
1-12" Standard flanged horizontal swing check, 25" face to face.
All of the above fittings and valves have 19" flanges 1½" thick faced and drilled standard with 12 bolt holes. The flanges on the tees on the 10" end are 16" diameter with 12 holes.
2-Powell 4" iron body flanged vertical checks 10" face to face, 9" flanges, 8 bolt holes.
4-Chapman 12" flanged OSAY Gate Valves, 15" face to face, Cat. #101, bronze mounted.
1-12" Golden & Anderson altitude regulating valve.
1-New 3" Laukenhelmer flanged horizontal stee check valve, 250 h. pressure with companion flanges, faced and stemand of 250 h. The material listed above has been in use less than one year.

A. S. LYON, Purchasing Agent City of Rocky Mount, N. C.

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### FOR SALE

# Complete Steam Turbine-Generator Power Plant Consisting of:

- 1—500 Kilo-watt, 3600 rpm., 110 pound gage steam pressure, Condensing Brown-Boveri Steam Turbine, directly connected to-
- -Brown-Boveri A.C. Generator, 500 Kilo-watt, 80% power factor, 3 phase, 60 cycle, 1640 am-peres, 220 volt, 625 Kva. and
- -Direct current Exciter, 80 volt, 9.6 K.W. 120
- -Switch-board panel, on which are mounted the following equipment:
- 3—A.C. Ammeters, 1—A.C. Voltmeter, 1—A.C. Polyphase Indicating Watt-meter,
- -A.C. Power Factor Meter,
- 1-Frequency Meter,
- -D.C. Ammeter,
- -8 pole Voltmeter Receptacle and Plug,
- 1—Speed Control Switch,
  1—Brown Boveri Quick Acting Voltage Regulator,
- -Brown-Boveri Inverse Time Limit Over-load Re-

1-Set of wiring for instruments, Rheostat for Exciter Field.

### **Mounted Separately**

- 1-Polyphase Watt-hour-meter, General Electric
- -3 Pole, 2000 ampere, 3000 volt Brown-Boveri Oil Circuit Breaker, Manual or Electric Motor op-

### **Condensing Equipment**

- 1-Brown-Boveri 3 pass Surface Condenser, with pipe connections to Circulating Water Pump, Condensate Pump, and Ejector Pump, mounted on common shaft, with Steam Turbine on one end and 220 volt Motor on the other end.
- DeLaval Oil Separator.
- -Binks Water Cooling Tower, with Nozzles and Piping.

This plant is in good condition, with the exception of the Field of the Generator, which needs re-insulating, at an approximate cost of \$1,300.00, which will put it in condition for a good many years' service.

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### WE SELL--PURCHASE--RENT

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Motors, Generators, Turbines, Centrifugal Pumps, etc.

A.C. & D.C. Elec'l Meters, Potential & Current Transf. All Makes. Scales Calibrated to your requirements.

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150 KW Ridgway 4 valve 3/60/220 V. & Switchbd.
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72 Allis Chalmers 'Newhouse' Gyratory 3/60/220,
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4600 P&H Gaso. 1 yd. Crawler Crane. Overhauled.
Many other Items Available.

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What have you for sale?

### FOR SALE IMMEDIATE DELIVERY

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190 kw. Ridg. 250 v. DC. 2200/3/60 1290 rpm. syn.
100 kw. West. 250 v. DC. 2200/3/60 900 rpm. syn.
150 kw. Ridg. 250 v. DC. 2200/3/60 900 rpm. syn.
300 kw. Crocker Wheeler 250 v. DC. 220/440/220/3/60
3/60 720 rpm. induction.
30 kw. Crocker Wheeler 250 v. DC. 440/220/3/60
720 rpm. syn.

ROTARY CONVERTER 100 kw. G. E. 250 v. 1200 rpm., 2300/4000 A

200 KW. G. E. 250 v. 1200 rpm., 2300/4000 A.C.
230 V. D.C. GAS ENGINE SET
70 kw., West belted to 110 HP. Bessemer Gas Engine.

### TURBO GENERATOR SET

SQUIRREL CAGE MOTORS—3 ph. 60 cy. UIRREL CAGE MOTO

Volts Make Type

2200 West. CS

2204 West. CS

2204 West. CS

2204 West. CS

2206 West. CS

2206 West. CS

2200 West. CS 500 450 400 400 350 300 275 250 225 200 200 200 200

	LIP RING MOTORS—3	ph. 60	cy.
H.P.	Make	Speed	Volts
750	Cr. Wh	250	2300
700	G.E. MT132	393	2200
600	G.E. I	150	550
400	West, CW967A	1170	220/440
260	Burke EM-65	600	220 / 440
200	West. CW956A	690	2200

A. C. GENERATOR 219 kva. G.E. 2200/220/440 v., 3 ph. 60 cy., 200 rpm., 80% PF.

STOKER
Detroit Underfeed Stoker complete—(Was used with 277 HP, Boiler.)

Send for Stocklist.

DUQUESNE ELECTRIC & MFG. CO. Pittsburgh, Pa.

### TRANSFORMERS WANTED

in operating condition or burnt out. Mail us list giving complete nameplate data and stating condition.

We Rewind, Repair and Redesign all Makes and Sizes ALL TRANSFORMERS GUARANTEED FOR ONE YEAR Write for Catalog No. 136-E

### THE ELECTRIC SERVICE CO., INC.

"AMERICA'S USED TRANSFORMER CLEARING HOUSE" Since 1912 CINCINNATI, OHIO

### **MACHINE TOOLS**

AUTOMATICS, #52 and #53 National Acme, 4-spindle.

RILL, 3' Prentics, Radial, motor dr.

GRINDER, 12"x36" Pratt & Whitney Surf.

GRINDER, 16" Heald #25 rot. surf. belt dr.

KEYSEATER, #0 Baker, belt dr., cap. 2"x30"

LATHE, 18"x10" Lodge & Ship. belt dr. Q.C.

LATHE, 26"x24" Lodge & Davis, belt Q.C.

LATHE, 30"x20" Le Blond, motorized, Q.C.

LATHE, 42"-60"x24' New Haven, belt.

PIPE MACHINES, ½"-2" Landis belt drive.

SHAPER, 20" Stockbridge belt dr. power feed to head.

### AIR COMPRESSORS

AIR COMPRESSORS

1302' Chicago Pneumatic OCE 3/60/2300
868' Ingersoll-Rand XCB, belt drive
807' Ingersoll-Rand XRE 3/60/440
630' Ingersoll-Rand XRE 3/60/440
528' Ingersoll-Rand ER, 14x12
368' Worthington, belt dr., 12x10
254' Chicago Pneumatic, 10x10, NSB
202' Chicago Pneumatic, vert., 3/60/220
173' Ingersoll-Rand, ER, 9x8
136' Chicago Pneumatic, NXB, 8x8
136' Chicago Pneumatic, NXB, 8x8
140' Gardner Vertical, 2-cylinder, 8x6
MANY OTHER SIZES IN STOCK

# THE O'BRIEN MACHINERY CO. 113 N. Third St. Mar 0727 Phila., Pa.

### FOR SALE

TURBO GENERATOR units, Cond. 3/60/2300v. 2—1000 KW. 1—750 KW. 1—1500 KW. Bleeder 3/60/440 v. 1—500 KW. 1—300 KW. DIESEL PLANTS; 600 KW. & 400 KW. 3/60/

STEPHEN A. DOUGLASS CO. 630 Fort Washington Ave., New York, N. Y.

## **BOILER--STOKER**

75 horsepower, 12 section, cast iron American radiator boiler S-48, in perfect condition.

#4 Iron Fireman Stoker, perfect

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Igor I. Sikorsky, speaking for the designers and builders, said the ships were engineered with one definite objective. to operate with utmost efficiency over long, over-water routes, at high speed and with full passenger, mail, and express loads. For example, the veteran designer pointed out, that these ships are not only capable of easily flying the Atlantic non-stop, but in establishing new speed and scheduled-completion records for the route.

Each plane will have a top speed of 235 miles per hour. Their cruising speed with full load in long-distance will be 175 miles per hour, Maximum non-stop range, under special fuel and load conditions, is figured to be in excess of 6,000 miles.

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